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ABSTRACT

The objective of this study was to find out with what major geographic place names, various 13-year-old children from different countries were familiar. Anglo-American, Latin American, Western European, African, Asian, and Arab cultures were represented among the countries participating in the project. A sampling of students (usually at least 300) from each country were given a map of the world and asked to identify oceans, countries, and cities. A teacher questionnaire asked teachers to characterize their communities and to describe their schools. The publication contains country reports (an overview of the school system and analysis of data) from: Canada, United States, Mexico, Venezuela, Brazil, Ireland, Netherlands, Norway, Poland, Soviet Union, Egypt, Nigeria, India, Japan, New Zealand, and Iraq. The country reports demonstrate that there is a wide range of pupil performance not only among countries, but also within a country. The highest level of achievement was reported by Poland. The scores from Ireland and the Netherlands closely approximate one another. Canada and the United States have patterns like those of Western Europe but at somewhat lower levels of performance. Countries referred to as "developing nations" turned in the largest proportion of students in the low range of scores. That the scores of Brazil, Mexico, and Venezuela should be so similar lends a certain credence to the test results. (RM)

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PLACE VOCABULARY RESEARCH PROJECT

ROBERT N. SAVELAND, EDITOR

A Report to the Commission on Education

of the

International Geographical Union

SP 014 025

Place Vocabulary Research Project
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FOREWORD

The Commission on Geographical Education of the International Geographical Union has been fortunate in obtaining the collaboration of a number of enthusiastic geography educators. After the initial "brainstorming" meeting in Moscow in August 1976 when many ideas were put forward by the international group there present, various individuals and groups began the arduous process of putting projects into operation.

One such group, under the leadership of Dr. Robert Saveland, set about the task of finding out with what major place names, various 13-year-old children from different countries were familiar. As anyone who has undertaken cross-cultural investigations will know, the course of such work seldom runs smoothly. It is to Dr. Saveland's and his collaborator's credit that they managed to obtain results from a substantial number of different cultural areas. No doubt, discussion will flourish as to how the information obtained may be interpreted, but this does not detract from the value of this pioneering work.

Norman J. Graves
Chairman

Commission on Geographical Education
International Geographical Union

THE GAME OF THE NAME

Zambia, Gambia, Malawi, and Chad,
Where are the lands we knew as a lad?
With this very couplet we started proclaiming
A previous decade of national renaming.
Since then, in order to do our duty,
We have to record there is now a Djibouti,
Which the Afars and the Issas still call homey,
While Benin has become the name of Dahomey.

And the Belgian Congo of yesteryear?
Lo and behold, now it's known as Zaire.
Let's sing Kampuchea and make it melodious,
Replacing the label that one was Cambodia's.
As for Bechuanaland, don't call us bwana,
Not even to rhyme with its new tag, Botswana.
If British Honduras we remember with ease,
The grandchildren will find the same true of Belize.

To Ellice Islands we bid a fond toodle-oo,
With big welcome back in their guise of Tuvalu.
Yes, the names they are a-changin', to which we add, "And how!"
If Portuguese Guinea seems missing, look up Guinea-Bissau.
Or think of Ceylon being crooned by Paul Anka
To never forget it is now called Sri Lanka.

You can go the old way of the follow-the-mob way
And say either Rhodesia or emerging Zimbabwe,
But the United Nations would never fib ya,
South-West Africa is already Namibia.
So fix up your atlas, and we'll do the same,
Until the next round in the game of the name.

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CHAPTER 1

BACKGROUND AND RATIONALE

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The meetings of the Commission on Education of the International Geographic Union at Moscow State University in the summer of 1976 were the occasion for beginning a Place Vocabulary Research Project. There, various research groups were formed to pursue common interests. The contacts that are made and the stimulus which comes from such meetings are indispensable to progress on research frontiers.

The term *place vocabulary* is not one in common use, an indication of the small amount of attention given the subject. Out of favor as an educational strategy for a generation, place knowledge is often considered simple rote, the use of repetition and memorization. The fact is, however, that a knowledge of place is not simple rote and is linked with perception and spatial conceptualization, which are *au courant* and respectable fields of geographic research.

The matter of place vocabulary has long been of interest to the director, since the time when he taught school. Later, as editor of a series of geography textbooks and a school atlas, he learned that the usual middle grade texts contained over 3000 place names; was that a workable vocabulary? Inasmuch as citizenship training is one of the primary goals of education, this would seem to be an important, and still unanswered, question. Prior to the Moscow IGU meetings, the project director participated in a review of research into the study and teaching of geography in the United States (Saveland & Pannell, 1975) which revealed that little attention had been given recently to place vocabulary, and that no work had been done on a cross-cultural basis.

Wishing to pursue this line of inquiry and to extend it to other cultures around the world, the director began to assemble, following the Moscow meetings, a project team. Contact was made with Lawrence Fahey, then Technical Support Officer in the Program of Regional Development of the Organization of the American States. He agreed to be co-director of the project and helped to provide the base map and criteria for determining the selection of countries. This will be explained further in Chapter 2.

Coordinators in each participating country would be especially crucial to conducting the research. Their duties were to be:

1. assistance in developing a test
2. the dissemination of test materials and instructions to schools
3. preparation of the country's report

The goal was to have at least two countries from each continent in the project, and to have each major cultural realm represented. The project was open to all who wished to take part and, largely, country coordinators were obtained through the communications network of the Commission of Education of the International Geographical Union.

As the Place Vocabulary Project evolved, funding was sought from a variety of sources including the Xerox Corporation, the National Institute of Education, and the National Science Foundation. No grants were received and, indeed, difficulty was experienced in obtaining responses to letters and other efforts to develop a dialogue. While the director acknowledges his shortcomings in failing to communicate the project's worth to the bureaucracy, he nevertheless has serious reservations about the value of many grants funded by the federal government. It is significant to note that the project was carried on with little funding by a group of people who have freely given their services because of a dedicated interest in the project and its outcomes.

Historical Antecedents

The origin of an idea is often difficult to pinpoint. So it is with this project which finds itself on the continuum of geographic research into spatial perception and learning. Antecedents surely go back over fifty years when Harold Rugg and oth-

ers devised lists of place names which should be known by students of world affairs (Ridgely, 1926).

The rise of the social studies movement in the 1930s engendered a great debate over the relative merits of teaching geography as a separate subject or as an integrated course with other social science disciplines. Geographic educators in the United States reluctantly concede that this battle was lost as fusion courses became pervasive in elementary and middle schools across the country. That this debate continues in other parts of the world is evident in some of the country reports in following chapters.

Political, economic, and social changes brought about by World War II resulted in new legislation directed toward more comprehensive schools in many countries around the world. This was concomitant with increasing urbanization and the migration of people from less developed rural regions into metropolitan areas. The continuing imbalance in educational opportunities between rural and urban sectors is generally recognized and is reflected in the reports of various countries.

The post-Sputnik era of the 1950s is considered a time of educational transition in the United States. The federal government began to assume a greater role in education by granting funds for research and effecting changes, such as racial integration, in the schools. It was during this period that the High School Geography Project was conceived. Like other projects at the time, its focus was on conceptual learning (Patton, 1974). In the effort to avoid traditional "capes and bays" geography and to emphasize concepts, a policy decision was evidently made to avoid the use of place names. The actual became the hypothetical; Seattle became "Portsville." If a firm foundation of world spatial patterns had previously been developed in the middle grades, this approach would have been justified. As it was, the baby was thrown out with the bath water and secondary students remained mainly illiterate insofar as the development of their place vocabularies was concerned.

The influence of the United States on educational thought in other parts of the world would be difficult to analyze. It can possibly be said that the High School Geography Project had more influence abroad than at home (Gunn, 1975). Through the worldwide distribution of books and periodicals, and through Fulbright Awards and other exchange programs, there is diffusion of seminal ideas. Thus Bruner and Bloom have become "household words" in teacher training institutions around the world. On the other hand, works from outside the United States, such as those of Piaget, have had a significant influence in this country.

During the 1960s and 70s, research in geographic education has been characterized by attempts to identify levels at which certain geographic concepts and skills should be taught (Saveland & Pannell, 1975). Statistical studies using quantitative methods have predominated. The results of this research have generally taken the form of recommendations to postpone the presentation of certain concepts and skills until students have reached particular levels of maturation. Rice and Cobb (1978) have called for more pragmatic research. They stress the importance of investigating student capabilities after the intervention and stimulation of effective teaching strategies.

The educational system in the United States is characterized by movements and issues which gain attention for awhile and then fade away. The current great debate is over whether or not to go "back to the basics." Ancillary to this is the attention being given to performance objectives and "competency-based" education. (The rise and fall of an educational movement can almost be charted by the frequency of occurrence of certain key words in the professional literature.)

Many persons would associate a knowledge of place names with the "back to basics" movement. The fact that they equate the learning of places with rote memory shows how little thought has been given to the subject. Such is the background and setting for this project.

What is Place Vocabulary?

A place vocabulary is not greatly different from other kinds of vocabulary. It is associated with the meanings we attach to verbal symbols, or words. Like other vocabularies, it is an aid to thought or expression. In general, enlarging the vocabulary enriches the quality of ideas which can be communicated.

There is, however, an essential difference that separates place vocabulary from other language. Place names which make up place vocabularies are attached to certain locations and features in the universe. As such, they can be mapped, and thus are in the domain of the geographer.

Language is a mirror of culture as indicated by the numerous words that Eskimos have for different kinds of snow. There is, however, a great deal of universality

to place names. Usually only one name is attached to a place, and the transcribing, spelling and pronunciation of a name is often remarkably similar in different parts of the world. This is reflected in the different forms of the World Basic Place Vocabulary Tests which used a common base of fifty names translated into the vernacular of instruction (see the Norwegian test, below). Except for certain non-English alphabets (Cyrillic, cuneiform, Arabic, etc.), place names can often be interpreted by persons otherwise unfamiliar with the language. There are nonetheless some instances of confusion in usage: England, on the island of Great Britain, is a part of the British Isles which, in turn, is a part of the United Kingdom. Another example is the former country of Russia which is now a part of the Union of Soviet Socialist Republics, or the Soviet Union.

The acquisition and expansion of a personal vocabulary is an integral part of the process of becoming educated. How this is accomplished is no longer a great mystery, although unknown elements remain, and the capabilities of the human brain are awesome. Stimulus-response bonds have been known for a long time. We have watched infants make associations as they learn "eye," "nose," "ear," and then transfer this cognition to themselves. We know that meaningful associations get clustered into patterns and classifications which give structure to vocabulary.

STEDSNAVNTEST FOR VERDENSBORGERE

Skole_____ Navn_____

Klasse_____ Gutt_____ Jente_____

Dato_____ Fødelsdato_____

1. Hvor mange timer i uka ser du på TV omtrent?_____
2. Hvor mange timer geografi har du i uka på skilen?_____
3. Hva er det fjerneste stedet du selv har vært?_____

Skriv nummeret fra kartet foran det riktige navnet under.

Hav og sjøer (nummer 1-5)

___Nordishavet	___Det karibiske hav	___Middelhavet
___Atlanterhavet	___Det indiske hav	

Land (nummer 6-37)

___Algerie	___Frankrike	___Saudi Arabia
___Argentina	___India	___Sør Afrika
___Australia	___Indonesia	___Spania
___Brasil	___Iran	___Sverige
___Kanada	___Italia	___Tyrkia
___Chile	___Japan	___England
___Kina	___Mexiko	___Sovjet unionen (Russland)
___Columbia	___Nigeria	___USA (De forente stater)
___Cuba	___Peru	___Jugoslavia
___Egypt	___Filippinene	___Zaire
___Etiopia	___Polen	

Byer (nummer 38-50)

___Buenos Aires	___Mexiko City	___Peking
___Kairo	___Moskva	___Rio de Janeiro
___Calkutta	___New York	___Sidney
___Johannesburg	___Paris	___Tokio
___London		

Because so much place vocabulary lies outside the self and beyond the horizon of direct experience, it is largely acquired from the culture through schooling, travel, and the media. Of course, individual motivation and curiosity play an essential part in the acquisition of knowledge. Place perception when connected with conceptualization of direction (orientation), distance (scale), and location (site, situation and position) becomes somewhat more complicated. The development of a working place vocabulary ultimately requires a range of experiences and familiarity with world maps and globes.

The continents and oceans are major context clues and organizational structures for place knowledge. Children in Montessori schools can often identify them at the age of five, and the continents and oceans have commonly been taught in the public schools by the age of nine. At the simplest level, this is largely a memoriter process in which the student associates a shape in a certain location with a name--such as South America. Later, as Brazil, Andes Mountains, Amazon River, and Rio de Janeiro are associated with South America, this continent takes on additional meaning.

The development of a place vocabulary is thus inextricably linked with the range and frequency of exposure to place names in meaningful settings, especially where children can visualize and experience a place. This experience could be a descriptive passage from a text, a photo or film, a contact with a resource person, or an actual, firsthand experience. Inasmuch as place knowledge is experiential, it is also involved with the affective domain.

An aid to developing a working place knowledge is the ability to recognize patterns. These might be physical patterns such as climates and landforms. Knowing the world arrangement of the taiga or subarctic climate not only helps to locate areas such as Canada and Siberia, but is also a clue to problems of the people and government in such places. These problems cannot really be understood without a foundation of place knowledge. On a more advanced level, political groupings of countries are made. Countries are recognized for the blocs they occupy, such as the Central American Common Market or the European Economic Community. By and large, however, Africa remains *terra incognita* to many students and adults around the world.

The ultimate goal in place knowledge has been expressed by Preston James (1980) as the ability to pass the "thumb test." This is a kind of blindman's buff whereby a student is asked to carry on a short discourse about the place where his finger chances to land on a wall map of the world. Opposed to this view is the doctrine of contiguity which claims that countries are best learned in a logical, comprehensive order. At one time, the practice of bounding was prevalent whereby students were asked to identify a state's neighbors in each direction. More recently it has been the practice to select only a few representative places for study in depth. The post-holing or fence-stringing argument has a logical conclusion: if you wish to enclose an area, it is necessary to do both.

One of the problems is that you do not teach a place by alluding to it. This is what happens in world geography courses which span all of the continents in one term. World geography courses have a function if they synthesize earlier comprehensive area studies. Implicit in the foregoing is the overriding curriculum question, "What needs to be known?" At what point in the continuum of knowledge can a line be drawn between what is necessary and what is superfluous?

There is not a great difference between learning persons' names and learning place names. Different individuals have varying degrees of skill in such recall. When meeting a new person or place, one first observes physical features, shapes and colors. In a firsthand meeting with a person or place, the element of sound is also involved, but this is lacking if the acquaintance is made through photography or a map. At the first meeting, certain value judgements are made and opinions are formed relative to likes and dislikes, and this information is encoded, classified, and stored in the brain for later retrieval. If a person or place is met only once, the cognition will soon fade unless the meeting was especially eventful. A person or place encountered frequently becomes well known.

American students and others generally assume that they know the meaning of words or the location of places from context clues. The dictionary habit and the atlas habit are far from universal, and too often an atlas is not even available in the classroom. Nonetheless, the dictionary habit and the atlas habit are manifestations of the inquiring mind which educators uphold as a major goal.

It may well be argued that as long as an atlas is available it is not necessary to have a large place vocabulary. However, people do not generally walk about outside the home, classroom, or library carrying their atlases with them, except in their brains. It is certainly not necessary (and probably not possible) to know the more than 100,000 place names contained in stan-

dard atlases. Until this time, no attempts have yet been made to determine what is a functional place vocabulary for a citizen of the world. The Place Vocabulary Research Project is a first step in that direction.

Why a Cross-Cultural Study?

The United States has been referred to as a nation of geographic illiterates. The frontier history and the spirit of isolationism are possible contributing factors to this deficiency. But what of other nations and cultures--would insular nations with a history of trade and expansionism do better? Other cross-cultural studies have indicated that Japanese students excel in mathematics. There is considerable evidence to indicate that expectations are a large factor in learning. Do some cultures have greater expectations and put more value on place knowledge than others?

Interdependence has been a major theme in social science education for the past forty years. The recognition of environmental problems and the rise of ecology have demonstrated that all men are inhabitants of the world island. Integral with a respect for one another, and for the environment, is the development of a sense of place. The name chosen for a place helps to establish its identity, Greenland notwithstanding. The call for global education, however it is defined, is receiving national and international attention.

The brain's physical potential to store and retrieve place data should be analogous among human beings, albeit subject to great variations. The functions of the right and left hemispheres are becoming better known, and it is interesting to note that the ability to match a place name with its location on an outline map involves the use of both hemispheres. The left side is responsible for the verbal skill in place vocabulary, the right side involves the spatial imagery (Blake, 1979).

Educational methodology differs widely among the countries of the world. In some, materials for instruction are meager, others have a surfeit, and games, desk maps, jigsaw puzzles and films may contribute to students' place vocabularies. All of these factors cannot be examined but, where differences exist, some explanations can be sought.

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CHAPTER 2

TEST CONSTRUCTION AND PROCEDURES

Choice of Names

Some basic assumptions had to be made about the World Basic Place Vocabulary Test from the outset. One of the first of these was that the test had to be as free as possible from cultural bias. The selection of countries and the choice of map projection could inject this element. Here the country coordinators contributed a most essential service by not only translating the test into the vernacular, but also by reviewing it for cultural bias. Pilot tests included the names of natural features such as major rivers and mountain ranges, but these were eventually eliminated due to the desire to use a single map which would be simple and uncluttered so as to avoid confusing the student. The final choice was narrowed to the identification of oceans, countries and cities.

Oceans were chosen in order to learn if students grasped the distinction between land and water on a black and white outline map. Country identification constituted the main part of the test. While each of the 153 members of the United Nations could be considered to be worth knowing, the decision was made to use those of over four million population and 500,000 square miles (1,295,000 km^2) of area. An area of this size was large enough to be readily visible on a small scale world map.

The two largest cities on each continent (except Antarctica) and the largest city in Australia were selected for testing. Two more cities were then added, one in Europe and one in Asia, to bring the total test items to 50. This was a rather arbitrary number which made the computing of percentages easier and also, if one minute were allowed for each test item, students could complete the test in a 50-minute period.

Rather than use a combination of Arabic numbers, Roman numerals, and letters, it was decided to use only one system of numbers from 1 to 50. The first five numbers were for oceans and the last thirteen were for cities. This was indicated on the response sheet, and provided a clue but did not prevent students from mixing up countries and cities.

Student Age

Inextricably linked with the choice of place names was the choice of age for testing. We wanted students who had been exposed to several years of schooling prior to the test; we also wanted to test a broad spectrum of students by selecting an age lower than the general school-leaving age. Inasmuch as this could vary widely from country to country, the best approach was to make an approximation which could be standardized and would be easy to administer.

Some national assessment tests in the United States have focused on the age of thirteen (Pike & Barrows, 1979). It was decided that the use of this age could contribute to other horizontal studies. This age also represented the last year of elementary school in some places and the upper middle school in others. For those tests which were given in 1979, it was decided to use the scores of students born during 1966.

The World Basic Place Vocabulary Test was not intended to produce a bell curve of normal distribution. It is a proficiency test in which basic knowledge can be demonstrated. The main hypothesis for the project is:

> Students in different parts of the world at the age of thirteen years are capable of spontaneous vocabulary retrieval for 50 universal and basic place names and can associate their correct location with numerals on a small-scale outline map of the world based on an oval projection.

Map Projection

The deficiency of the Mercator projection in representing size relationships has long been recognized. Many school children

have used an orange peel to discover the difficulties of adapting a spherical surface to a flat surface. While the choice of projections is inevitably a compromise, some very pleasing oval projections which are equal area and conformal have been widely used in the last dozen years. That is, they show size relationships and shapes with relative accuracy. Lawrence Fahey's meridian map is one of these and was selected for the project.

To avoid production and postage expenses, a glossy photograph of the base outline map was sent to the country coordinators. They in turn used this to duplicate the number of maps needed for testing in their countries. Some quality control was lost in this process. Legibility is a key factor in student performance on outline maps and much depends on the condition of duplicating equipment on any given day.

Size of Samples

Anglo-American, Latin American, Western European, African, Asian and Arab culture realms were all represented among the countries participating in this project. It would have been desirable to have additional testing in South Africa and Australia, but the contacts were not established in time. The participating countries are mainly large or densely populated. Samples should also be taken from small countries with small populations. As can be seen from the country reports, a variety of school organizational structures and systems are represented.

Within a country, the coordinators were asked to sample, when possible, .005 or .5% of the school population within the age group. The lack of funds hampered this effort in several instances, but a sample of at least 300 students was usually attained. The sample was to be stratified to approximate the nation's society according to factors of urban-rural residence, economic levels, race and religion, and geographic distribution.

Correlations

The heading of the students' response sheets called for the name, sex, birthday, school and class of those taking the test. The term *class* was confusing to some, and the terms *grade* and *subject* might have been more appropriate.

Three questions followed the heading. The first asked the students how many hours of television they watched in a week. This question was inserted in part to serve as a cultural and economic indicator. However, we were also interested in trying to learn if students who watched more hours of television would score higher on the test. This method had to rely on the students' estimate of the time and these reports must be accepted with a certain amount of skepticism, particularly when 60 hours of television viewing are reported for one week.

The second question called for a *yes* or *no* response to the question as to whether geography was one of the subjects they were then studying. It is interesting to note that students in the same class did not always have the same answer, but this could be due to different schedules in departmentalized schools. Here we were seeking data as to whether or not students studying geography as a separate subject would score higher in the test. This question was followed up in the Teacher Questionnaire with the question, "Is there a structured program of study in geography through several grades in your school?" This information was useful to country coordinators reporting on the place of geography in the school curriculum.

The third question asked students to indicate the most distant place to which they had traveled. Country coordinators were free to set their own parameters as to what could constitute a widely traveled student. The assumption might be made that more widely traveled students would score higher on the test. Interesting exceptions are noted in some of the country reports.

A Teacher Questionnaire asked teachers to characterize their communities and to describe their schools. They were asked whether or not the students came up to their expectations on the test and were provided space for random comments.

Scoring

Much of the scoring was performed by teachers who administered the test. In an ideal situation, standardized score sheets would have been provided which could be machine scored. Cost and time limitations prevented this. Students' scores were reported in order from the highest to the lowest on a form that also had columns for recording sex, birthdate, hours of TV viewing, and whether or not the students were taking a course in geography.

Teachers were also asked to do an item analysis by recording the number of errors for each place name on the test. These were sent to the country coordinators for analysis. This information was used to test the assumption that students are more

apt to know nearby places than those which are remote. Some highly interesting patterns emerged and are commented upon in later chapters.

A standardized frequency distribution was adopted for reporting the range of scores, as follows:

41 - 50
31 - 40
21 - 30
11 - 20
< 10

As might be expected, countries varied considerably in the range of performance by their students. The purpose of this test was not to foster competition among countries. The reasons for observed variations will nonetheless be the subject for speculation and further research.

Country Reports

A suggested outline was sent to the country coordinators as a guide for making their reports. The outline was as follows:

I. Overview of School System
   - A. Organization, Administration
   - B. Kinds of schools
   - C. Place of geography in the curriculum
   - D. Information on methodology and evaluation of geography instruction

II. Analysis of Data
   - A. Representativeness of sample
   - B. Ranges of scores
   - C. Observed correlation
     1. TV viewing
     2. Travel experience
     3. Community factors
     4. Geography in school program

III. Commentary and Conclusions
   - A. Evaluation of this activity
   - B. Recommendations for further action

An overall length of 4000-5000 words was recommended. Country reports are to be found in succeeding chapters.

References

Pike, L.W., & Barrows, T.J., et al. Other Nations, Other Peoples: A Survey of Student Interests, Knowledge, Attitudes, and Perceptions. Princeton, NJ: Educational Testing Service. Washington, DC: Department of HEW, Publication No. (OE)78-19004, 1979.

CHAPTER 3

CANADA

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Overview of School System

It is not easy to concisely give an overview of the Canadian School System since, by our constitution, education comes under provincial control, a control guarded very jealously by the provinces. The central government controls education in the territories--two political regions which, because of their small population, have not yet achieved provincial status. The two areas are the Yukon and the North-West Territories. So, in reality, there are 11 school systems in Canada, each operating quite independently.

Organization, Administration

In each of the provinces, there is a Department of Education which supervises all aspects of the school system. A substantial amount of the total costs of education are paid by the Department in the form of grants to local boards of education. The Department also establishes the general goals and basic requirements as well as setting out guidelines for courses at all grade levels.

The operation of a particular school system is administered by a director and/or superintendents under a local board of education, usually elected. Working within the framework established by the Department, the local officials are responsible for the building and maintenance of schools, the hiring and supervision of staffs, and curriculum development. Some of the costs are usually met locally by municipal taxes. There is, however, great variation from province to province in respect to the division of authority between the Department and local municipalities.

In some provinces the minority religious group (Protestant or Roman Catholic) operates a "separate" school system which is quite independent of the "public" school system. Individual ratepayers at the local level decide which of the systems they wish to support. Most provinces also have "independent" schools which do not normally obtain government grants. Curriculum development in separate and independent schools must come within the framework of departmental guidelines.

Kinds of Schools

In most provinces, the basic division of schools is dual: elementary and secondary. The elementary schools include kindergarten to grade 8 students, from age 5 to 14. In some areas, tri-systems exist, with a junior high school (grades 7-9) or a senior elementary school (grades 7-8) established between the elementary and secondary levels.

Place of Geography in the School Curriculum

Geography does not normally exist as a separate subject until at least grade 7. Social studies is almost universal to grade 6. Geography is supposed to be included in social studies courses, but there is great variation from province to province in the amount of emphasis given to it. Even in provinces where the geography component is fairly strong in the official guidelines, great variation seems to exist from school to school, depending on the background of the teachers and administrators involved.

Table 1 outlines the areas for study that are specified or suggested in provincial guidelines for grades 4 to 9. Provincial independence in education is clearly indicated. Newfoundland initiates geography as a separate subject at an earlier grade than any other--in grade 5. Saskatchewan, Alberta and New Brunswick have no separate geography at all through grade 9 although there are clearly indicated components of geography in most grades. Similar variation exists in respect to the world regions given emphasis at different grade levels: indeed, the variation is so great that it is quite impossible to make any generalizations about the order of areas studied, or world coverage achieved.

Canadian studies, supported by the Canadian Studies Foundation, has become a strong movement in the past decade. Its purpose is to improve the student's understanding of Canadian aspects of all subjects. This has had particular influence on geography, causing considerable more time to be spent on local, regional, and

Table 1: Provincial Course Specifications
(Components of Social Studies Courses unless Specified "G"-Geography)

	PROVINCE				
GRADE	Newfoundland	Nova Scotia	New Brunswick	Prince Edward Is.	Quebec
4	Around Our World	Man in His Changing Environment	Local Community	Selected Canadian and World Communities	
5	Geography of Newfoundland	Canada and the World's Peoples	Canadian communities and other cultural realms	Selected World Regions: S'navia., Br. Isles, France	
6	Canada: This Land of Ours	The Atlantic Provinces		P.E.I. & Atlantic Canada	
7	Mediterranean Europe; North America	Canada	Western Hemisphere	Canada	Geography 110 Local Region; Man & Weather; Other regions of current importance
8	Southern USA; Monsoon Lands: Asia; South of Capricorn; Deserts & Savannahs	U.S.A.	Canada	British Isles & Europe (emphasis on Germany)	Geography 51 a) Capitalist countries (W.Europe, USA, Brazil, Japan); b) Communist countries (USSR, China)
9	Canada	Europe	Establishing a World View	North America	

national studies, resulting in the sacrificing of former studies of other parts of the world.

Methodology and Evaluation of Geography Instruction

The methodologies recommended by provincial departments of education give some indication of the official stance in respect to methods of geography instruction. The 4 western provinces and New Brunswick all give strong support for inquiry approaches. Alberta shows especially strong support for a social inquiry model of teaching, building around this several fairly detailed guidelines for all social science courses. New Brunswick has adopted Crowder's Persistent Problems Approach. The other eastern provinces do not commit themselves so strongly to particular approaches, rather emphasize the need for teachers to have a varied repertoire. Quebec gives particular emphasis to practical experience and research, recommending considerable use of the laboratory approach. Fairly general approval by most provinces is given for in-depth studies, extensive use of audio-visual aids (especially map and aerial photographs), geographic games, field studies, independent study, small group discussion and research. A conceptual approach to the development of learning activities was given much support. A few provinces imply, but do not support directly, a textbook approach.

It is not possible to generalize about the extent to which these recommended approaches are implemented. There is considerable evidence to suggest that many geography classrooms have changed little in the past 20 years: the textbook remains the bible; expository teaching remains dominant. On the other hand, many teachers have been well ahead of their departments of education in instituting many of the methodologies referred to above.

The evaluation of geography instruction is much less dependent than it formerly was on formal examinations, although they still exist in most jurisdictions. Decisions concerning the relative weighting of formal examinations, periodic short tests, group projects, independent work, participation in small group and class discussion, etc., are usually left to local systems, individual schools or even individual teachers. Generally, formative evaluation has become much more accepted and practiced.

Geography testing gives considerable

Table 1 (continued): Provincial Course Specifications

	PROVINCE				
	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
4	Global Village *	Countries around the World	Saskatchewan-Our Province	Alberta-Our Province	Early Cultures of North America
5	Eastern Hemisphere *	G Manitoba, Canada, North America	Canada-Our Homeland	Canada-Our Country	Growth of a Nation - Canada
6	Western Hemisphere *	Overview of the World	The Americas-Our Hemisphere	Meeting Human Needs-Early Societies; Eastern Societies-SE Asia; Government	Culture Realms of the World
7	G North America	G Europe, Scandinavia, Br. Isles, France, Germany, Italy	Selected Regions of Eastern Hemisphere	People and Their Culture; Non-Industrial (Australia, Africa); Canada, A Multicultural Society	Cultural Stages: Mediterranean Region
8	Southern Continents	Asia: India, USSR, China, Japan	Origins of Canada's Heritage	People and Their Institutions: Canada, Nation Development; Africa and Asia	G Tropical World; selected (Asia, Africa, Latin America
9	Canada or Eurasia	Southern Continents	Origins of Western Civilization and Culture	People and Their Technology: Industrialization in Canada	Industrial and Urban: Japan, USSR, EEC

* not official, but in common use

stress to objective items, especially multiple choice. Map work is probably less emphasized than formerly.

Analysis of Data

Representativeness of the Sample

The total Canadian population of 13 year-olds in 1979 was about 493,000. One-half of 1% of the 13 year-old population was estimated by province. The proportion of this sample that should come from each major ethnic group, religious group, and type of settlement was determined from census data. In selecting the communities from which to obtain samples, an attempt was made to choose those that would in total approximate these proportions. Permission was then obtained from the Deputy Ministry of Education of the province to use schools for the research, indicating the municipalities that had been selected and the size of the sample wanted from each. Permission was granted in all cases, and the names of directors of education for the suggested municipalities were provided. A request was then made to each school system for the required number of students needed to take the test, and a suggested distribution was given in respect to language, public or separate school, core or suburban location, etc. Unfortunately, some of the selected school systems did not agree to participate. Moreover, a number of schools that had agreed to participate did not send in any returns. Because of the shortage of time and money, no additional samples were sought. The samples for Ontario and Quebec, the two most populous provinces, were much below the number required. This was balanced by the fact that the other provinces sent a larger sample than needed. The final average for all of Canada was corrected by reducing or increasing the total score for each province in proportion to the difference of the actual sample from the desired sample. This was not done for other statistics.

The result is that the representativeness of the sample is very rough in relation to distribution of population, ethnic background, religion, and type of settlement. Even the sex distribution is not representative. It was assumed that the random selection of the sample from 75 different schools would produce a sex distribution close to the actual--51.2% male and 48.8% female. Instead, the distribution obtained was 46.8% male and 53.2% female--a 5% error.

Ranges of Scores

The corrected average for Canada (see above) was 24.9 out of 50. The average of

the actual sample was 26.4.

The range of scores for the whole country indicates a fairly good bell curve (see Table 2). However, only two provinces --Ontario and Nova Scotia--had similar patterns.

Tables 2 and 3 show great variation from province to province. In average scores (see Table 3) the range is from 22.8 (Quebec) to 32.4 (Pr. Edward Is.). Ontario, Manitoba and Saskatchewan are about average. Newfoundland, Prince Edward Island, Alberta and British Columbia are considerably above average, whereas Nova Scotia, New Brunswick and Quebec are considerably below average.

An examination of individual schools in a province shows the same variation. For example, in Alberta, which has a small negative correlation provincially, 7 of 12 schools have a negative correlation, only 3 of which are very significant. On the other hand, the schools showing positive correlations are all quite significant. Nationally, 36 schools are positive, 30 are negative.

Travel Experiences. This information was obtained from only 40% of the sample since the form sent out to teachers for returns of test results had no place for this information. Teachers were not asked to return the actual test papers. Those few that did return them provided the data shown in Table 4. This sample contains nothing from the Maritime Provinces or Quebec.

Table 2: Range of Scores (%)

SCORES	PROVINCES										
	Newfoundland	Nova Scotia	New Brunswick	Pr. Edward Island	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
0-9	3.2	5.9	10.6	2.2	20.7	6.4	8.6	10.1	6.4	9.6	9.5
10-19	24.5	31.6	33.0	6.5	27.7	20.5	15.1	23.9	22.9	11.4	21.7
20-29	20.2	36.9	27.4	26.1	25.8	31.8	30.8	24.4	22.5	23.3	27.5
30-39	21.3	18.7	21.2	34.8	13.7	23.5	33.5	27.8	28.5	27.0	23.8
40-50	30.9	7.0	7.8	30.4	12.1	17.8	11.0	13.9	19.3	28.9	17.5

Observed Correlations

TV Viewing. No clear correlation is evident in Table 3 between TV watching and Place Knowledge. Nationally, for the upper third (based on test scores), hours of TV watching are slightly higher than those in the lower third (0.2), indicating a slight positive correlation. However, on a provincial basis, the results are quite contradictory. Only three provinces --Nova Scotia, Quebec and Saskatchewan-- show a positive correlation, but they are quite definite. The other seven show a negative correlation, only 3 of which are very significant--Newfoundland, Quebec and Ontario.

In analyzing the results, the second item in the table, "Rest of Canada or USA," was actually divided into three sections: "Rest of Canada," "Adjoining State, Florida or California," and "Rest of USA." No correlation between distance travelled and place knowledge seems to exist in any of these individually, or grouped together.

A positive correlation does show up in the first and third items in the table.

Table 3: Summary of Scores

	PROVINCES										
	Newfoundland	Nova Scotia	New Brunswick	Pr. Edward Is.	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
Average Score	30.2	23.3	22.8	32.4	21.4	27.2	27.2	25.7	28.1	30.1	26.4*
Upper Third Score	42.5	34.0	34.1	41.5	33.7	37.8	37.1	38.2	40.3	43.3	38.1
Lower Third Score	17.1	13.0	12.3	22.1	10.3	16.2	16.8	12.9	16.5	15.7	14.6
Males	30.8	26.4	23.5	34.9	21.0	30.4	29.5	28.4	30.9	32.4	28.7
Females	29.3	20.8	22.2	30.8	21.6	24.7	24.7	23.2	24.8	27.9	24.4
Hours of TV	20.5	23.3	19.9	22.6	20.1	20.2	20.0	22.2	20.2	18.9	20.4
Upper Third TV	17.5	28.4	20.0	18.5	18.8	19.2	18.3	24.5	19.2	18.0	20.7
Lower Third TV	23.7	23.7	20.9	27.9	16.7	22.0	19.4	20.4	20.4	19.5	20.5
Males TV	17.8	24.0	20.8	21.6	24.3	21.8	21.8	22.3	21.3	21.1	21.9
Females TV	24.9	22.3	19.1	23.3	17.2	18.8	18.1	22.2	19.2	16.9	19.0

* Corrected, 24.9

63% of those who had not travelled outside of the province are in the lower third of the sample whereas only 17% are in the upper third. Of those who had travelled beyond Canada and the USA, 37% are in the upper third, only 27% are in the lower third.

Two reservations can be noted about accepting this as a proven relationship. Firstly, some provinces show the opposite pattern, e.g., Saskatchewan. Secondly, it is possible that those who have not travelled out of the province are from low income families, those who have travelled to the rest of the world are from high income families, and that this is the significant factor, not the distance travelled.

Community Factors. (A) Size of Community--Table 5 indicates a definite correlation: village and rural schools have lower scores than large cities. However, it is significant that the average for large city schools is below the national average. Small cities have the highest score, 27.4.

(B) Income Level--Most returns indicated an average income level. Table 6 shows that the five schools indicating a high income have an average score of 31.4; the eight with low incomes average 17.3. This seems to show a strong correlation between income and test scores. However, it should be noted that 4 of the 8 schools indicated as low income are also village or rural schools, so it is impossible to

Table 4: Farthest Distance Travelled From Home (Number of Students)

		Newfoundland		Ontario		Manitoba		Saskatchewan		Alberta		British Columbia		Canada	
		Upper Third	Lower Third	Upper Third	Lower Third	Upper Third	Lower Third	Upper Third	Lower Third	Upper Third	Lower Third	Upper Third	Lower Third	Upper Third	Lower Third
Not Out of Province	Upper Third	2		7		0		1		0		1		11	
	Lower Third		3		26		0		0		5		6		40
Rest of Canada or USA	Upper Third	14		49		9		24		40		26		162	
	Lower Third		14		45		12		18		40		31		160
Rest of World	Upper Third	4		34		5		0		15		14		72	
	Lower Third		2		18		2		4		10		17		53

differentiate precisely what the significant factor is. However, the four city schools with low incomes have almost an identical average score--17.4.

Community Conditions

Table 5: Size of Community

	Number of Schools	Average Score
Large Cities	24	25.3
Village or Rural	16	21.2

Table 6: Income Level of Community

	Number of Schools	Average Score
High Income	5	31.4
Low Income	8	17.2

(C) Stability of Community--Only 7 schools indicated their communities as having a transient population--one each in New Brunswick, British Columbia and Saskatchewan, and 4 in Quebec.

Table 7 indicates that the average score for these schools is 22.5, somewhat below the national average of 26.4. So there would seem to be a positive correlation here between community stability and place knowledge. However, it should be observed that the New Brunswick case--where the community is dominated by military personnel--and that in British Columbia, both had high average scores.

Table 7: Stability of Families

	Number of Schools	Average Score
Stable	57	26.3
Transient	7	22.5

Geography in School Program--Two questions were asked of teachers in this regard: (A) Does your school have a structured geography program? (B)Are the students studying geography now?

There was some confusion in respect to both of these questions. Some of those reporting weren't sure whether or not to answer "yes" to the "B" question if students were taking geography as part of social studies. Some indicated "yes," some "no," and some left it blank. So the significance of the results is questionable. In Table 8 data for "A" suggests a positive correlation, while "B" indicates a negative correlation. This contradictory result suggests that confusion about the question was significant.

(C) Areas studied in social studies or geography--By comparing Tables 9, 10, and 11 with Table 1 (Provencial Course Specifications), it should be possible to

Table 8: Geography in School Program

A. Schools with Structured Geography Program

	Number of Schools	Average of Scores
Yes	51	24.8
No	23	27.0

B. Schools Where Students Taking Geography Now

	Number of Schools	Average of Scores
Yes	56	25.8
No	10	23.6

see any correlation between Areas Studied in Social Studies or Geography and various groupings of items in the test. Here are some conclusions:

A large number (over 8%) were not able to correctly locate their own country. Where such an error was made, Canada was often confused with the United States, perhaps the result of watching so much TV originating there. Such an error, however, may indicate a basic lack of spatial concepts.

When test items are organized by continent (see Table 11), it can be seen that in every province, North America achieved the highest score, showing a positive correlation between proximity and place knowledge. However, such a correlation is not supported by the scores achieved on other continents. Africa had the lowest score in all provinces yet it is not as distant as Asia or Australia.

Table 9: Items with Fewest Errors

Item	No. of Errors
Arctic Ocean	123
Canada	210
United States	268
Atlantic Ocean	284
Australia	377
Indian Ocean	378
U.S.S.R.	387
Mediterranean Sea	466
New York	477
Caribbean Sea	481
Mexico	506
Mexico City	548

Table 10: Items with Most Errors

Item	No. of Errors
Ethiopia	1985
Zaire	1984
Indonesia	1951
Nigeria	1902
Algeria	1898
Buenos Aires	1851
Rio de Janeiro	1844
Yugoslavia	1832
Calcutta	1820
Iran	1804
Johannesburg	1791
Saudi Arabia	1757

Table 1 shows that Newfoundland and Ontario were studying North America in grade 7. Nova Scotia was studying the U.S. in grade 8, the grade in which most of the Nova Scotia students were in when the test was given. These three provinces have 3 of the 4 highest scores for North America indicating a positive correlation between area studied and place knowledge. This correlation can also be supported by noting that Prince Edward Island and Manitoba have the best scores for Europe. Pr. Edward Island was studying it in grade 8, when the test was given--Manitoba covered it in grade 7, when most Manitobans received the test. Africa, South America and Asia are most poorly done in that order. Table 1 shows that very little of these continents is included in courses to the end of grade eight.

Table 11: Average Errors Per Item Per Student

	Newfoundland	Nova Scotia	New Brunswick	Prince Edward Island	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
North America	0.17	0.17	0.23	0.05	0.34	0.14	0.19	0.19	0.22	0.24	0.21
South America	0.39	0.68	0.73	0.67	0.65	0.50	0.70	0.58	0.64	0.57	0.60
Europe	0.39	0.70	0.54	0.11	0.55	0.46	0.25	0.47	0.45	0.43	0.45
Asia	0.50	0.66	0.59	0.51	0.67	0.60	0.63	0.60	0.52	0.48	0.58
Africa	0.63	0.78	0.78	0.62	0.72	0.68	0.74	0.74	0.55	0.57	0.67
Australia	0.18	0.23	0.37	0.18	0.47	0.18	0.28	0.31	0.29	0.27	0.28

Sex. One final correlation is worthy of mention, especially because the results are so definite and so unexpected. This has to do with the sex of the students. An examination of the data in Table 12 suggests a strong positive correlation between males and place knowledge. It may be also noted that males watch more TV than females, which may have some significance in explaining this correlation.

Commentary and Conclusions

Evaluation of This Activity

It was a useful exercise from a national point of view in that a data base is provided for comparisons in the future.

Most educators contacted were enthusiastic about the project although some were critical of the test construction and the forms used for returns.

There is evidence from comments received that many teachers were planning to reevaluate their course of study and objectives in light of the poor results obtained by their students.

Not many firm correlations could be established due to a number of factors: lack of a large enough sample, lack of clarity in some questions, etc.

Recommendations for Further Action

It would be useful to study in some

Table 12: Sex Comparison

	Number	Average Score	Upper Third		Lower Third		Hours of T.V.
			% of Total	Average Score	% of Total	Average Score	
Female	1358	24.4	26	36.9	40	14.4	19.0
Male	1193	28.7	41	38.9	26	15.0	21.9

detail a sample of schools used in this study to attempt to identify more precisely what factors influence the achievement of place knowledge.

CHAPTER 4

UNITED STATES OF AMERICA

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Overview of School System

The school systems of the United States are characterized by local control, an outgrowth of historical factors originating in the colonial period. The spirit of independence, the expanding frontier, and a free enterprise economic system further influenced decentralization in education. While free, non-sectarian, public education is a function of the individual states, church related and private schools also exist, but receive no governmental funding under the doctrine of separation of church and state.

Organization and Administration

The local school board is the major policy making body for each independent public school system and is responsible for the quality of education in the local system. School board members (usually 5-14 in number) and the Superintendent of Schools may be elected or appointed by city, county, or district bodies. The school board determines the budget, establishes guidelines and procedures concerning curriculum and instruction, and operates the schools and auxiliary services (buses, lunchrooms, etc.). The local school superintendent carries out the policies of the Board of Education.

Funds for the school budget come from local property taxes supplemented by state funds. State funds are usually granted on the basis of the number of students in average daily attendance. During the last 25 years, significant funds have been supplied to local school boards by the federal government to supplement a variety of programs such as racial integration, aid to the handicapped, environmental education, improvement in reading instruction, etc.

On the state level, the State Superintendent of Education, or Commissioner of Education, is responsible to the governor and the state legislature and ultimately the people, for the quality of education in the state. The State Department of Education, which he heads, performs such functions as teacher certification, the dispersal of state funds to schools, and the preparation of curriculum guides and adoption of textbooks.

Kinds of Schools

The traditional schools, up until the 1920s, were elementary schools (grades 1-8) and high schools (grades 9-12). Since the 1920s, the kindergarten and junior high school (usually grades 7-9) have become increasingly common. The 1940s and 1950s saw an increase in school consolidation concomitant with rural-urban migration, racial integration, and busing of students. The comprehensive consolidated high school is the dominant kind of school in rural counties today. In urban areas there may be separate vocational and technical schools at the secondary level.

During the last decade, the movement toward middle schools (usually grades 6,7, 8) has been growing and the number of junior high schools has declined. The usual pattern is now:

Preschool (usually private)		
Kindergarten		age 5
Elementary school	(grades 1-5)	age 6-10
Middle school	(grades 6-7-8)	age 11-13
High school	(grades 9-12)	age 14-17

There are, of course, considerable variations due to the system of local control.

Place of Geography in the Curriculum

In the United States, geography is generally considered an integral part of the social studies curriculum. Recent studies show that, despite local autonomy, there is considerable congruence in the topics taught at each grade level across

the country. Figure 1 (Superka, et al, 1980) indicates the grade emphasis.

Figure 1: Dominant Social Studies Curriculum Organization Pattern

K - Self, School, Community, Home
1 - Families
2 - Neighborhoods
3 - Communities
4 - State History, Geographic Regions
5 - U.S. History
6 - World Cultures, Western Hemisphere
7 - World Geography or History
8 - American History
9 - Civics or World Cultures
10 - World History
11 - American History
12 - American Government

In Table 1, it can be seen that geography has a possible place in grades 4,6,7, and 9, but history and government dominate the curriculum. While Table 1 indicates general curriculum practice, it does not show variations, such as mini-courses, nor teaching methods employed. Many teachers introduce map skills and geographic concepts in the early elementary grades. Research indicates, however, that elementary teachers are generally poorly prepared for teaching geography (Schneider, 1976).

The uniformity of topics from kindergarten through the 12th grade can largely be attributed to the place of the textbook in classroom instruction. Textbooks prepared by professional educators are produced and distributed by commercial publishers, and the educational systems are viewed as a vast market for the sale of their products.

Methodology of Geographic Instruction

During the 1960s, the textbook method of instruction was widely attacked by educators while attention was focused on federally funded projects to improve teaching and learning. Several of these projects developed textbooks emphasizing the "inquiry" method, or inductive learning. Commercial publishers then adapted some of these techniques into their products. Recent surveys indicate that 90% of social studies classes in grades 4-12 use one or more textbooks for instruction (Superka, et al, op. cit.). Although teachers seem generally satisfied with the textbooks, their major complaint is that students have difficulty in reading the texts.

One would expect to find extensive use being made of audio-visual materials in the United States. Despite this, there are rural areas where students seldom see an educational film, or filmstrip. The overhead projector is widely available and teachers often use transparency sets with progressive disclosure and overlays as an adjunct to their lectures or presentations. Well-financed suburban schools may have a surfeit of supplementary materials and a separate room for a social studies resource center is not uncommon. Games and simulations are often kept in these centers. Films are available from centralized film libraries and from services which offer free films produced by manufacturers and other special interest organizations. School libraries are generally well equipped, even in rural areas, because monies have been channeled in this direction. One of the more neglected areas is that of field studies. Teachers generally are not trained to use this method, and school buses which frequently transport football and basketball teams from one school to another are seldom used for field study trips.

Evaluation of Geographic Instruction

Evaluation of geographic education is the subject of an entire book, The 1971 Yearbook of the National Council for Geographic Education (Kurfman, 1970). It is not possible to synthesize in this brief space the treatment of the various topics such as standardized achievement tests, teacher-constructed classroom tests, measurements of affective learning, reviews of teacher education programs, and critiques of materials which are taken up in this yearbook. In general, evaluation studies usually point to the geographic illiteracy of American students and the low status of geographic education in teacher training institutes (Charlier, 1970).

Extensive use is made of commercially prepared standardized tests in the schools of the United States. These range from reading readiness tests, intelligence and achievement tests, to the well-known Scholastic Aptitude Test which is widely used for screening applicants for college admission. As far as is known, there has been no measure of the amount of geography content in the SAT. The Iowa Test of Basic Skills is one of the better known tests of map reading ability.

The Institute of International Studies of the U.S. Office of Education recently contracted with the Educational Testing Service to study the interests, knowledge, attitudes and perceptions of U.S. school children about other countries and people.

notably Mexico, France, Egypt, the People's Republic of China, and the USSR (Pike, et al, 1979). Data were collected in the fall of 1974 from 1,728 students randomly selected from 55-60 schools in 27 states. Students in grades 4,8, and 12 were tested to reveal different stages of maturation, measure the attainment at the conclusion of secondary education, and possibly to relate to other studies of the National Assessment of Educational Progress. Since 8th grade students are generally about 13 years of age, the target age for the World Basic Place Vocabulary Project, reference will be made to the ITS study in the data analysis which follows.

Analysis of Data

Representativeness of Sample

Participation in this project was on a voluntary basis and no remuneration was involved. The system of local autonomy in U.S. schools meant that contacts had to be made through the communications network of national organizations, or on the basis of personal friendship. The test was published in The Journal of Geography and teachers were invited to participate (Saveland, 1979). At the time of this report, data had been received from 9 groups in 8 different states: Arizona (AZ), California (CA), Georgia (GA), Iowa (IA), Illinois (IL), Nevada (NV), Pennsylvania (PA), and West Virginia (WV). Except for the New York-New England area, these states show a geographic distribution representing different sections of the U.S.

A total of 708 students is reported. This is far from the goal of .005 of the thirteen-year-old school population, but this is a vast country and resources for more investigation were limited. The sample is primarily rural or small city. The lack of a sample from a large metropolitan area is a major drawback and must be taken into consideration when interpreting the data. The total sample does, however, include a range of socioeconomic groups, but may be categorized as that large group in the United States known as the "middle class."

Range of Scores

The mean score for students tested was 24.7 and the range of scores is shown in Table 1.

Table 2, the distribution of mean scores by state, shows considerable variation in performance. Pennsylvania and Illinois, which have traditionally been considered to be states with geography programs in their schools, ranked high although there was considerable divergence in the results of the two samples from Pennsylvania (PA).

Table 1: Range of Scores

Score	N	%
41-50	102	14.44
31-40	152	21.46
21-30	162	22.88
11-20	183	25.84
0-10	109	15.39

Table 2: Distribution of Mean Scores

State	N	Mean	Standard Deviation
PA 1	114	32.27	10.30
PA 2	70	26.87	12.48
NV	207	25.85	12.01
IA	30	22.50	12.82
IL	36	36.72	10.08
AR	51	19.66	11.60
WV	14	21.07	7.17
CA	38	20.63	9.31
GA	151	15.16	10.08
Total	708	24.72	12.73

The overall performance cannot be judged to be a good showing. The fact that 14.44% did attain scores of 41-50 indicates that the test is within the capabilities of thirteen-year-olds, but the failure of 40% of the students to identify 20 places correctly is distressing.

The rank order of correct answers is presented in Table 3. As might be expected, the United States was the item with the fewest errors, yet it seems rather astounding that 5% of the 13-year-old students tested could not identify their own country. This is somewhat better than the 1974 ITS study in which 82% of eighth-graders correctly identified the United States.

Due to the difference in test construction, the element of chance selection of the correct response was greater in the ITS test than on this, the World Basic Vocabulary Test. Notwithstanding the differences, fewer than half the students in the ITS study were able to locate Egypt correctly. Those results are similar to the findings here.

In this study, it is interesting to note, in Table 3, the decline in correct answers after the first 12 items--from an error rate of less than 27% to an error rate of over 41%.

Table 3: Summary of Correct Answers

Item	Correct Answers	Item	Correct Answers
USA	95%	India	49%
Arctic Ocean	93%	Philippines	41%
Atlantic Ocean	88%	Sydney	41%
Canada	86%	Peking	40%
Mexico	85%	Sweden	39%
New York City	85%	Poland	36%
Indian Ocean	84%	Egypt	35%
Mexico City	77%	Argentina	34%
Mediterranean Sea	76%	Cairo	33%
Caribbean Sea	74%	Saudi Arabia	32%
Australia	73%	Turkey	32%
USSR	73%	Colombia	31%
Brazil	59%	United Kingdom	31%
China	56%	Yugoslavia	30%
Italy	54%	Iran	29%
Moscow	54%	Peru	28%
South Africa	54%	Buenos Aires	26%
France	53%	Rio de Janeiro	24%
Paris	51%	Indonesia	24%
Spain	51%	Calcutta	21%
Cuba	50%	Johannesburg	20%
Japan	50%	Algeria	16%
Tokyo	50%	Nigeria	16%
London	50%	Ethiopia	13%
Chile	49%	Zaire	11%

Observed Correlations

Television Viewing. Television in the home is ubiquitous in the United States, and while the content has been dubbed a "vast wasteland," some excellent documentaries, travelogues, and educational programs are telecast, both on commercial stations and the public television network. The extent to which students watch educational programs in preference to westerns, mysteries, or game shows is considered to be disproportionately weighted toward the latter.

Table 4 shows the average hours of television viewing per week correlated to the range of scores. The average hours of TV viewing was 24.16 hours per week. Six students with perfect scores watched an average of 27 hours per week. One student who scored 0 reported watching 96 hours per week! There does not appear to be a perceptible pattern in TV viewing since there is a similarity in the number of hours of television watched per week whether the student had a score of 50, 30, or 10 correct answers.

Table 4 shows an apparent correlation between TV viewing and test scores, but a paradoxical one in that the higher scores for the group as a whole related to fewer hours of TV viewing. Those students may be more selective in their viewing and may watch fewer, but more educationally oriented programs. It may be, too, that their parents are more restrictive as to "homework first" and television only when other activities are completed.

Table 4: TV Viewing per Week and Test Scores

Score	N	TV/Week Male	TV/Week Female	TV/Week Average
41-50	102	21.50	17.20	19.01
31-40	152	19.11	18.66	18.98
21-30	162	25.06	22.20	22.69
11-20	183	21.98	24.92	22.69
0-10	109	29.37	26.76	27.18

Travel Experience. As a factor in a student's place knowledge, travel experience is difficult to measure. There was no place for it on the tabulation sheet and few teachers made comments about it. The California sample reported that some students had traveled to various western states, Canada and Mexico, and had been to some of the eastern states and Europe. Nevada students seemed to have traveled a good bit in the United States and Canada; the Illinois group was well traveled and many had lived in such places as Afghanistan, India, Kenya, Argentina, Israel and England. The other groups did not comment on travel.

Community Factors. Three types of communities are represented in the United States sample. They are: rural (PA-1 and IA); village (WV); and small city (PA-2, NV, IL, AZ, CA, and GA). The unevenness of size of sample and number of schools represented in each group make meaningful comparisons difficult but the means in each type range from village 21.07, to small city 25.42, and rural 27.38. A larger and more evenly distributed sample would be necessary before meaningful conclusions could be drawn regarding this factor.

Two schools in the sample were private schools (NV and IL) while the others were public schools. The private school mean score was 31.28, compared to 23.74 in the public schools. The difference may be accounted for by the smaller classes that are sometimes found in private schools.

The upper income level is represented by the Illinois sample only, which had a mean score of 36.72, the highest mean of any group. Average income level is represented by PA-1, NV, AZ, WV, and CA. The mean for this socioeconomic group of the sample is 25.5 The lower income portion of the sample is represented by PA-2 and GA which had a mean of 21.01--the lowest mean--although the means for the two schools in this sample were very different. The PA-2 mean was 26.87, higher than the national mean, while the GA part of the sample had a mean of 15.16, the lowest in the study.

Generally, it appears that higher income groups had higher test scores, a factor borne out in numerous studies.

Sex of Students. The mean for males who took the test was 26.66 as opposed to 23.14 for females. No factors contributing to this can be identified by the limits of this study. Table 5 shows the difference in scores between males and females.

Table 5: Mean Scores, Boys and Girls

	N	$\bar{x}$	sd
Boys	328	26.66	13.25
Girls	380	23.14	12.18
Total	708	24.72	12.73

Place of Geography in the School Program. Students were asked to indicate whether or not they had studied geography in their social studies program. Thirty nine percent of the sample reported that they had studied geography. For those who had some geography instruction, the mean score was 28.33 as opposed to a mean score of 22.31 for those who reported no geography. While the mean for students who had studied geography is predictably higher, it does not seem a very high mean on a test of 50 places that might be considered a test of basic vocabulary.

Many teachers commented on the fact that they did not expect students to do well, so a poor showing was within their expectations. This was attributed partly to the fact that geography is not formally taught and to a lack of motivation on the part of students and teachers. One teacher's analysis pointed out that students frequently confused Cuba and the Philippines and confused the African and South American cities and countries. Several teachers commented that the United Kingdom was not a familiar term.

Evaluation and Recommendations

The fact that only twenty of the places tested are known to American students is an indication that they are not generally aware of the "where" of world locations and therefore of world events. It is difficult to envision any information about happenings in these places, whether it be Iran or Moscow, that could have much meaning. In the sample group, fewer than 30% of the students correctly identified Iran and less than 12% located Zaire correctly even though it is a large country which supplies the United States with numerous valuable resources.

While a return to "capes and bays" geography is not advocated, surely the results here indicate that more time needs to be devoted to place knowledge and vocabulary development. Such a vocabulary would enable the young world citizen a basic grasp of the structure of world political space.

Place locations should not be "dropped" in the classroom without assuring that students know where as well as what the discussion involves. Teachers must also not take for granted that students know even the most commonly discussed place locations. The study indicates that a number of students could not place their own country correctly and nearly half did not correctly identify Italy, Spain, Japan, and Cuba.

Teacher comments indicate that they were not surprised at the poor showing of students, but surely we need more than this awareness. We need more emphasis on fundamental place knowledge. This is not to ask necessarily for a new direction in geographic or social studies education. It may simply be a matter of more active use of wall maps to teach what is being taught now. To make places come alive for students, they must be taught where the places are.

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CHAPTER 5

MEXICO

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This report attempts to contribute to the World Basic Place Vocabulary Project which has a principal objective to prove that thirteen year-old students in all parts of the world are capable of associating the names of highly visible oceans, countries and cities with their correct location on a world outline map. In our country the chosen age corresponds to the first level of secondary school. No attempt to measure the spatial abilities of younger children has previously been made in Mexico.

The data for this testing program were useful in evaluating a part of the educational program in geography.

We are especially grateful to Jorge Ham and Luz Maria Tamayo for their statistical computer assistance, to Lourdes Godinez who helped to tabulate the data, and to Santa Godinez for correcting the English text.

At the conclusion of this report we have included a series of data tables that we consider could be useful (Appendix 1, 2, 3, 4).

Overview of the National School System

Organisation, Administration

According to the 3rd Article of the General Constitution of the Mexican Republic, education has to have the following characteristics: it is formative for developing man's faculties and encouraging national union and human relations under the spirit of social justice; it has to be founded on democratic principles, free from any religious doctrine; it is a public service and a human right, compulsory at the primary level and free of dues when it is given by the state.

Purposes. The purposes of education in Mexico are: to obtain man's cultural development, to strengthen his faith in independence and in justice, to maintain his patriotic spirit and international solidarity, and to unify and coordinate education in the whole nation.

Principles. Education has to be free from all religious indoctrination. It has to be democratic to obtain the continual economic, social, and cultural improvement of the people. It has to be national to protect the interests of the country. It has to be humanistic, holding the ideals of human equality and fraternity, in order to achieve respect for the individual, the family, and society.

Federal Education Law. The Political Constitution of the United State of Mexico is the supreme law of the nation. Supplementary laws regulate its application. In order to unify and coordinate education in the country, a Federal Law of Education was issued on November 27, 1973 which went into effect on December 14, 1973. Education has been considered a public service and the state, as representative of society, has the responsibility for it.

Private schools participate if they satisfy the requirements established by the administration. The Federal Law of Education with its new structure gives equal opportunities for all citizens to enter the educational system. With the new structure there is an "extra scholar education". These are procedures for reevaluation and equivalences of studies to show a student's educational level. This gives everyone the opportunity to enter into economic and social activities as well as to continue his or her studies. The great advantage of the Federal Law of Education is that it gives approval to self-instruction and allows a person to take an examination in order to obtain a certificate of knowledge which gives better opportunities in life.

There was a modification of the programs of study for the primary school. New free textbooks were produced. The textbooks were more formative than informative and were adapted to regional needs. A

teacher's guide was prepared for each level and area in order to bring knowledge up to date and also to provide pedagogic techniques for selecting and using the material in the textbooks.

The National System of Technical Education embraces all the institutions of technical education of both types--medium-superior and superior. All are under the Secretary of Public Education. These institutions do not have administrative independence, but they do have academic independence, which means they are essentially autonomous. Their functions are distributed in four general directions, as follows:

1. Industrial and commercial technological education
2. Agricultural and technological education
3. Sciences and technologies of the seas
4. Superior education

Even though the Constitution gives everyone the same opportunities to obtain an education, the possibility to get it is still related to the family income. The different regional development within the country is reflected in education. As elsewhere, there are important differences in education between the rural and urban areas. Bejar Navarro[1] has noted that 54% of the children living in urban areas finish their primary studies, but only 9% of the children of peasants from rural areas finish.

Kinds of Schools

First level: pre-primary, primary

Middle level: secondary, technical schools, "preparatoria," "Colegio de Ciencias y Humanidades," normal schools

Superior level: universities, polytechnic, normal

All of the above types could be public or private schools.

Place of Geography in the Curriculum

In all grades of the primary school, the programs include geography, not as a separate subject but integrated with other disciplines: social sciences and natural sciences.

At the middle school level there is great variety in the educational system and in the way in which geography is taught. For example:

1. In "Preparatorias" geography is taught in the first and third years
2. In the system called "Colegio de Ciencias y Humanidades" (CCH) geography is taught in the third year as an optional subject
3. In the Technological Centers, geography is not included in the program

Until 1974 geography was taught at the secondary school level as a separate subject in all schools, but in August of that year the new plan of studies at this level was approved. Two options were established:

a. Teaching geography as a separate subject, that is, the traditional system
b. Teaching geography by "areas" joined with other subjects; a new system applied in Mexico

These two options went into effect in the secondary schools in 1975. Their programs of study are described herewith:

Geography as a Separate Subject

First year: physical geography and geography of Mexico

1. Interaction of man with his environment
2. Proofs and consequences of the shape of the earth
3. Process of formation of the lithosphere
4. Characteristics of the hydrosphere and the atmosphere
5. Location, situation and population of Mexico
6. Economic regions of Mexico (first part), northwest and south Pacific
7. Economic regions of Mexico (second part), north, central west, and central south
8. Economic regions of Mexico (third part), northeast, Gulf of Mexico and Yucatan peninsula

Second year: physical geography

1. Human relationships and the study of geography
2. Temperature, pressure and winds
3. Atmospheric humidity and climatic classification
4. The lithosphere, description of its materials and external agents that modify it
5. Physical characteristics of the large regions of Asia
6. Physical characteristics of the large regions of Africa
7. Physical characteristics of the large regions of Europe
8. Physical characteristics of the large regions of America

Third year: human and economic geography

1. Population of America
2. Population of Europe
3. Population of Africa

[1] Bejar Navarro, Raúl. Una visión de la cultura en México. El Perfil de México en 1980. Tomo 3. Siglo XXI. México, 1972

4. Population of Asia
5. Economic and political systems of the present world as a basis for development of countries
6. Development of capitalistic countries
7. Development of socialist countries
8. Development of Third World countries

Geography by "Areas"

The objective of the system by "areas" is to give a wide vision of human and natural facts through the knowledge of several disciplines interrelated in a single area: natural sciences or social sciences. Thus this system tries to give an interdisciplinary character to the study of the phenomena. The natural sciences are basically integrated with biology, physics, chemistry and some knowledge of physical geography. The social sciences area includes the following subjects: history, civics, human and economic geography.

Due to the way in which geography is integrated in this system, it would be very long and difficult to give the entire program, so we present a summary of both:

System by areas	hours/week
Spanish	4
Mathematics	4
Foreign language	3
Natural sciences (theory & practice)	7
Social sciences (theory & practice)	7
Sports, arts & technological education	5
	30

System by separate subject	
Spanish	4
Mathematics	4
Foreign language	3
Biology	3
Physics	2
Chemistry	2
History	3
Geography	2
Civics	2
Sports, arts & technological education	5
	30

Nowadays the two programs are working, even though the system by areas has been critized, saying that it was not necessary to integrate geography with other subjects, but only to establish an interrelation with some subjects. Also, it is said that education will be very deficient if one teacher has to teach several disciplines.

Finally, at the superior level there are two schools which grant the degree of licenciate in geography: one is located in the Colegio de Geografía at the Faculty of Philosophy and Letters of the National University of Mexico in Mexico City. The other is situated in the Escuela de Geografía at the University of the State of Mexico in the city of Toluca, in the State of Mexico. It is also possible to follow superior level studies in geography at the school "Normal Superior" in Mexico City.

Methodology and Evaluation of Geography Instruction (Secondary Level)

Methodology. The Secretary of Public Education publishes programs for the two systems: by "areas" and by separate subjects. These programs must be applied in all schools at the secondary level. This publication gives the general and specific objectives for each unit, and it also indicates all kinds of activities for teachers to follow. In the specific case of geography, there are exercises of direct observation for the explanation of natural facts by the students, mainly in relation with the surrounding area. All these observations are noted and commented upon. There are also practical exercises such as the preparation of maps and graphics, newspapers, murals or posters and also very simple experiments that help to explain some process or geographical fact. All these types of exercises give students the opportunity for discussion.

Fieldwork and the research of documents is also included in order to establish comparisons between areas. Students sometimes conduct interviews along with their fieldwork. The purpose of this methodology is to train the students to think about the causes of geographical facts and to establish relations among them.

Evaluation. Evaluation is a permanent process that has four interrelated aspects:

a. Initial evaluation indicates the general knowledge of students at the beginning of the course and is used to adapt the programs and didactic methods to the group.

b. Daily evaluation indicates the improvement of students in relation to the purposes of the program. The improvements are evaluated through questionnaires, oral expositions, laboratory practice, etc., as well as taking into account homework, participation in class, summaries, etc., according to teachers' decisions.

c. Periodical evaluation must be realized at the end of every three months, adding the marks of the periodical and daily evaluations.

d. Final examination is arrived at by averaging the three months marks with that obtained in the annual examination. The final examination is the basis for the promotion of the students. We must say that not all teachers follow these instructions exactly.

Analysis of Data

Representativeness of Sample

According to the last census data (1970) of Mexico, there were 1,198,775 13 year-old children but only 759,000 (63.30%) of them went to school that year. Due to the lack of human and economic resources only 347 tests were given. For the above reason it was also impossible to give the test in all states of the country. Therefore we only applied them in the metropolitan area of Mexico City and in the neighboring states of Morelos and Mexico. There were 160 (45%) applied in urban areas and the other 187 (55%) were given in rural areas.

The reason for using more tests in rural areas than in urban areas was that 25,503,286 of the 48,225,237 inhabitants of Mexico registered in 1970, or 52.9%, were rural population.

We have also considered the different economic strata according to the income of the economic labor force of our country. In 1970, 71% of the economic labor force registered a low income (less than 80 dollars a month). We decided to apply more tests in that stratum which has the greater number of people. We applied 218 tests (62.8%) in that stratum. The economic labor force with medium income (from $80 to $800 per month) was represented by 26% of the people, for this reason only 128 tests (37.2% of the total) were given in that stratum.

Another criterion followed was to test more in public schools than in private schools due to the fact that the public schools, being more numerous, are more representative. 66% of the tests were applied in public schools, the other 34% were in private schools.

Range of Scores

We want to give a general perspective of the results of the application for three groups of questions: oceans, countries, and cities (Table A).

The first group, oceans and seas, was the one that registered the higher percentage of correct answers; all the oceans and seas obtained more than 69%. There was a small difference (11%) between the ocean that the students recognized more and that which the students recognized less.

In the second group, countries, only 15 countries (47%) received more than 50% correct answers.

In the last group, only 3 cities--a very small proportion of them (23%)--obtained more than 50% correct answers.

Oceans and Seas. The Arctic Ocean was the one which received the higher number of correct answers (81%). We think that these results could be due to the characteristics of the landscape of the Arctic with glaciers and peculiar animals; this touched the Mexican students because it is greatly different from the landscape with which they are familiar. The second ocean more identified was the Atlantic; the reason could be that it is close to Mexico and is large in size. Then comes the Mediterranean Sea; its situation helps to identify it because it acts as a division between Europe and Africa. The identification of the Caribbean Sea, in spite of being near Mexico, was not good. Possibly its shape makes identification difficult.

Countries. Mexico was the best identified country. Then came the two most important world powers, the United States of America and the Soviet Union. Their identification could be due to political reasons. Then came a group of countries situated in America whose identification could be: Canada and Brazil for size; Chile by political reasons and for its shape; Argentina, Brazil by their importance in football-soccer teams; Spain for its cultural links; Cuba because it is near Mexico, and is an island; China by its size; then by shape and situation came Italy, Australia, India and Japan.

The least identified countries were those situated in southeast Asia, Africa and the Middle East.

Cities. There were only three cities identified with more than 50% of correct answers: Mexico City, Buenos Aires and New York. There was a big difference between the city they most identified, Mexico City (91%), and the next, Buenos Aires (53%). Buenos Aires is known for football-soccer reasons and New York because of our close relation with the United States. All other cities got a score of identification under 50%. We want to make clear that the city and country of Mexico did not obtain 100% correct answers due to the fact that the students mixed the corresponding numbers.

Cities that belong to countries of Africa and southeast Asia were less identified. Johannesburg was the city most difficult to recognize and obtained only 4% correct answers.

The fact that identification of cities was difficult may be attributed to not maintaining a constant relationship between

Table A: Total Percentage of Correct Answers for Each Question

Oceans and Seas		Countries		Cities	
Question	Correct	Question	Correct	Question	Correct
Arctic	81.16	Mexico	94.20	Mexico City	91.59
Atlantic	77.39	United States	92.75	Buenos Aires	53.62
Mediterranean	77.10	USSR	82.90	New York	50.43
Indian	74.78	Canada	78.84	Moscow	47.54
Caribbean	69.86	Chile	73.04	Tokyo	47.54
		Brazil	72.75	Paris	43.77
		Argentina	67.83	Peking	33.04
		Spain	63.19	London	30.43
		Cuba	62.90	Rio de Janiero	26.09
		China	60.87	Cairo	24.35
		Italy	60.29	Sydney	9.28
		Australia	60.00	Calcutta	6.96
		India	55.36	Johannesburg	4.35
		Japan	53.62		
		Peru	53.04		
		South Africa	49.28		
		France	47.54		
		Colombia	44.35		
		Egypt	38.55		
		Sweden	34.20		
		Poland	32.75		
		Philippines	28.41		
		Saudi Arabia	26.96		
		United Kingdom	24.35		
		Iran	21.45		
		Algeria	20.58		
		Yugoslavia	20.00		
		Turkey	19.42		
		Ethiopia	18.26		
		Nigeria	17.68		
		Zaire	13.62		
		Indonesia	11.01		

countries and their cities in the teaching process.

Observed Correlations. Table B shows a summary of the different correlations.

Correlation 1: Type of Locality. The students of urban areas had a higher percentage of correct answers than those from rural areas. The reason for this difference could be that in general the teachers with more experience do not want to teach in rural areas so it is the teachers who have just finished their training and lack experience who go to rural areas.

Correlation 2: Number of Students. This correlation deals with schools with small numbers of students (100-200) and those with large numbers of students (more than 1000). The students attending large schools got a higher percentage of correct answers. One of the reasons could be that small schools are more improvised and in general are private ones, they do not pay high salaries and for that reason cannot attract the better teachers. On the other hand, large schools need a good administrative organization, pay better salaries and, as a consequence, usually have have better teachers.

Correlation 3: Type of School. Students attending public schools (including technical schools) got a higher percentage of correct answers than students in private schools. The reason for this is the same as noted above (in Correlation 2). But we must point out that technical schools got the lowest percentage of good answers. Perhaps it is because they give more importance to technical subjects and in this system tend to neglect subjects such as geography, history, etc.

Correlation 4: System of Teaching Geography. This aspect is very interesting because there

Table B: Observed Correlations

Correlation	Options	Questions (% correct)			No. of Students
		Oceans & Seas	Countries	Cities	
1.Type of locality	1.Urban	76.25	49.53	46.25	160
	2.Rural	75.08	44.10	26.98	187
2.Number of students	1.100-200	72.68	42.38	33.72	276
	2.More than 1000	87.04	63.08	44.20	71
3.Type of school	1.Public	78.52	50.46	39.64	229
	2.Private	76.77	41.23	28.62	93
	3.Technical	46.67	31.77	27.24	24
4.System of teaching geography	1.As separate subject	81.64	53.28	42.24	159
	2.As integrated subject	70.91	41.08	30.36	187
5.Sex of student	1.Male	75.06	52.01	42.07	162
	2.Female	77.13	42.23	30.64	181
6.TV viewing	1. 0-16 hours/week	75.63	44.70	31.59	197
	2. 17-33 hours/week	80.17	51.04	44.71	117
	3. 34-50 hours/week	50.00	40.50	34.91	26
	4. 51-67 hours/week	60.00	43.75	23.08	1
7.Travel experience	1.Never traveled outside the community	100.00	73.44	50.00	2
	2.Traveled only in own country	75.14	45.86	34.89	325
	3.Traveled in the Americas	84.44	55.73	48.29	18
	4.Traveled in Europe	100.00	100.00	84.62	1

is a strong movement to change the traditional system of teaching geography as a separate subject for a new system in which geography is part of a larger area called social sciences. The social sciences include geography, history and civics, and another area called natural science in which is included physical geography, physics, chemistry and biology.

As we have noted, the choice between the two systems is optional in Mexico. From the test data, we note that students following the traditional system in which geography is taught as a separate subject got a higher percentage of correct answers than students following the new system (geography as part of social science).

Correlation 5: Sex of Student.

Correlation 6: TV Viewing. From analysis of Table B it is noted that it was not the students watching the most or least hours of TV who got the higher percentage of good answers. It was the group of students in the middle, those who watched from 17 to 33 hours of TV, who got the higher percentage of correct answers.

Correlation 7: Travel Experiences. This aspect was difficult to analyze because it was divided into four groups: those who had never been outside their town (two students); those who had traveled in the interior of the country (325 students); those who had visited some country on the American continent (18 students); and those who had traveled to Europe (one student).

As there was such a big difference in the number of students in each category, it is difficult to say that those who obtained the higher percentage of correct answers were those who traveled farther because only one student was involved. The same applies to those who had never traveled out of their town. They also got, after the one mentioned before, a high percentage of correct answers, but here there were only two students. We think that in this case, we could not generalize the facts.

Commentary and Conclusions

Evaluation of This Project

This test was given to students who were born in 1966, an age corresponding to the first year of secondary school. The number of tests given was not enough to cover the different regions of the country. We tried to represent the different economic strata of Mexican population in the testing program, but we did not succeed, especially in urban areas where there is a mixture of all types of students.

We could not find a clear correlation between TV viewing and scores. We could not find a clear correlaton between travel experiences and scores, because of the reduced number of students traveling outside of the country or not traveling at all. Thus the comparison was difficult.

Also, we cannot generalize that the students from large cities score higher because the test was applied only in one large city. We noticed that, in general, students identified countries first by size, then by shape. It was not possible to compare the scores of students taking or not taking geography because in Mexico all students at secondary level take geography.

Recommendations for Further Action

We noticed that there are factors, such as discipline in the school, that can affect the progress of the students. This must be taken into consideration in further action.

One of the aspects we consider important is to analyze the way in which geography is taught in Mexico. Through the test we noticed that the students taking geography as a separate subject got higher scores than those taking geography by "areas" (integrated with other subjects). We think that we must try to persuade the educational authorities to teach geography as a separate subject at all levels and increase the number of hours dedicated to teaching it.

Appendix 1: Number and percentage of students (347) taking the test, and correct answers [1]

Number of Correct Answers	Number of Students	Percentage of Students
0-10	49	14.12
11-20	107	30.84
21-30	103	29.68
31-40	63	18.16
41-50	25	7.20
TOTAL	347	100.00

[1] 259 students (74.6%) answered correctly 60% or less
25 students (7.2%) answered correctly 82%-100%

Appendix 2: Students Living in Urban or Rural Areas

Urban Students	Correct	Rural Students	Correct
OCEANS & SEAS		**OCEANS & SEAS**	
Arctic	81.25	Arctic	80.21
Mediterranean	76.88	Atlantic	78.07
Atlantic	75.63	Mediterranean	76.47
Caribbean	74.38	Indian	75.40
Indian	73.13	Caribbean	65.24
COUNTRIES		**COUNTRIES**	
Mexico	94.38	Mexico	93.05
United States	94.38	United States	90.37
USSR	85.63	USSR	79.68
Canada	83.13	Canada	74.33
Brazil	75.00	Chile	72.19
Chile	73.13	Brazil	70.05
Italy	72.50	Argentina	67.38
Spain	69.38	Cuba	60.43
Argentina	67.50	Peru	57.75
China	66.25	Spain	57.22
Cuba	65.00	Australia	56.68
Australia	63.13	India	56.15
Japan	60.00	China	55.61
France	57.50	Italy	49.20
India	53.75	South Africa	48.66
South Africa	49.38	Japan	47.59
Peru	46.88	Colombia	45.99
Colombia	41.88	France	38.50
Egypt	40.00	Egypt	36.90

Urban Students	Correct	Rural Students	Correct
Sweden	36.88	Poland	34.76
Philippines	36.25	Sweden	31.55
United Kingdom	33.12	Iran	23.53
Saudi Arabia	32.50	Saudi Arabia	21.93
Poland	30.00	Philippines	21.39
Algeria	23.75	Turkey	20.32
Yugoslavia	22.50	Ethiopia	18.72
Zaire	21.88	Algeria	17.65
Nigeria	20.00	Yugoslavia	17.65
Iran	18.75	United Kingdom	16.58
Turkey	18.13	Nigeria	15.51
Ethiopia	17.50	Indonesia	7.49
Indonesia	15.00	Zaire	6.42
CITIES		**CITIES**	
Mexico City	91.88	Mexico City	90.37
New York	70.63	Buenos Aires	45.99
Moscow	66.25	Tokyo	37.97
Buenos Aires	61.88	New York	32.62
Paris	59.38	Moscow	31.02
Tokyo	58.13	Paris	29.95
London	46.88	Peking	21.39
Peking	46.25	Cairo	18.18
Rio de Janeiro	36.25	Rio de Janeiro	17.11
Cairo	31.25	London	16.04
Sydney	16.25	Calcutta	4.81
Calcutta	9.38	Sydney	3.21
Johannesburg	6.88	Johannesburg	2.14

Appendix 3: Type of School

Public	Correct	Private	Correct
OCEANS & SEAS		**OCEANS & SEAS**	
Mediterranean	82.97	Arctic	86.02
Atlantic	80.35	Indian	77.42
Arctic	79.91	Atlantic	75.27
Indian	75.98	Mediterranean	73.12
Caribbean	73.36	Caribbean	72.04
COUNTRIES		**COUNTRIES**	
Mexico	94.76	Mexico	92.47
United States	93.45	United States	90.32
USSR	83.84	USSR	79.57
Canada	78.60	Canada	78.49
Chile	76.86	Brazil	70.97
Brazil	75.98	Chile	68.82
Argentina	69.87	Argentina	65.59
Spain	67.25	Peru	56.99
Cuba	66.38	Australia	54.84
China	65.94	Cuba	54.84
Italy	64.63	Spain	53.76
India	64.19	China	51.61
Australia	63.32	Italy	51.61
Japan	61.57	Colombia	44.09
South Africa	55.90	France	43.01
Peru	52.40	India	41.94
France	50.22	Japan	38.71
Colombia	45.85	South Africa	37.63
Egypt	43.67	Sweden	34.41

Public	Correct	Private	Correct
Poland	37.55	Egypt	31.18
Sweden	36.68	Poland	27.96
Philippines	35.81	United Kingdom	25.81
Saudi Arabia	33.62	Iran	21.51
Algeria	25.76	Turkey	18.28
Yugoslavia	25.76	Saudi Arabia	16.13
United Kingdom	24.89	Ethiopia	13.98
Iran	22.71	Algeria	12.90
Nigeria	22.71	Philippines	11.83
Ethiopia	21.40	Nigeria	9.68
Turkey	21.40	Yugoslavia	9.68
Zaire	18.34	Indonesia	6.45
Indonesia	13.54	Zaire	4.30
CITIES			
Mexico City	92.14	Mexico City	89.25
Buenos Aires	57.21	Buenos Aires	45.16
Tokyo	53.71	New York	45.16
New York	52.84	Moscow	44.09
Paris	49.34	Paris	34.41
Moscow	48.47	Tokyo	34.41
Peking	38.86	London	20.43
London	36.24	Peking	20.43
Rio de Janeiro	30.57	Rio de Janeiro	16.13
Cairo	29.69	Cairo	13.98
Sydney	11.79	Sydney	5.38
Calcutta	9.17	Calcutta	2.15
Johannesburg	5.24	Johannesburg	1.08

Appendix 4: Teaching of Geography

System by Separate Subjects	Correct	System by "Areas"	Correct
OCEANS & SEAS		**OCEANS & SEAS**	
Arctic	88.68	Arctic	74.33
Mediterranean	81.13	Atlantic	74.33
Indian	81.13	Mediterranean	73.26
Atlantic	80.50	Indian	68.98
Caribbean	76.73	Caribbean	63.64
COUNTRIES		**COUNTRIES**	
Mexico	94.34	United States	94.65
United States	89.94	Mexico	93.05
USSR	83.02	USSR	81.82
Canada	82.39	Canada	75.40
Brazil	81.13	Chile	67.91
Chile	78.62	Brazil	65.24
Argentina	74.21	Argentina	62.03
Australia	73.58	Spain	61.50
China	69.81	Cuba	60.96
Italy	68.55	China	52.94
Japan	66.04	Italy	52.41
Cuba	64.78	India	48.66
Spain	64.78	Peru	48.66
India	62.89	Australia	48.13
South Africa	58.49	France	43.32
Peru	57.23	Japan	42.25
France	52.20	South Africa	41.18
Colombia	49.69	Colombia	39.57
Sweden	47.80	Egypt	33.16

System by Separate Subjects	Correct	System by "Areas"	Correct
Egypt	44.65	Poland	27.81
Poland	38.36	Sweden	21.93
United Kingdom	36.48	Philippines	21.39
Saudi Arabia	36.48	Saudi Arabia	18.72
Philippines	36.48	Yugoslavia	16.58
Iran	30.19	Algeria	15.51
Algeria	26.42	Ethiopia	14.44
Nigeria	25.79	Iran	13.90
Turkey	25.79	Turkey	13.90
Yugoslavia	23.90	United Kingdom	13.90
Ethiopia	22.64	Nigeria	10.70
Zaire	22.64	Indonesia	6.95
Indonesia	15.72	Zaire	5.88
CITIES		**CITIES**	
Mexico City	91.19	Mexico City	90.91
Buenos Aires	60.38	Buenos Aires	47.06
Tokyo	59.75	New York	43.85
New York	57.23	Moscow	40.11
Moscow	55.35	Paris	36.36
Paris	51.57	Tokyo	36.36
Peking	43.40	Peking	24.06
London	40.88	London	21.39
Rio de Janeiro	32.70	Cairo	20.32
Cairo	28.30	Rio de Janeiro	20.32
Sydney	14.47	Calcutta	5.35
Calcutta	8.81	Sydney	4.81
Johannesbury	5.03	Johannesburg	3.74

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CHAPTER 6

VENEZUELA

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All of the raw data was received from Venezuela and placed into the computer at the University of Georgia. The printout was received just prior to presenting the report at the 24th International Geographical Congress. The following pages show the correlation matrix for all items. The description of the school system and evaluation of the data remains to be done. Apparently in this Venezuelan sample, there was not a statistically significant variation in the performance of boys and girls on the test. The test score variable is indicated in the last vertical column on the right under the heading "VOCTS."

CORRELATION MATRIX FOR ALL ITEMS — 8:16 TUESDAY, AUGUST 19, 1969 — 17

VARIABLE	N	MEAN	STD DEV	SUM	MINIMUM	MAXIMUM
COMSIZ	323	4.09287926	0.87974732	1322.00000000	3.00000000	9.00000000
INC	323	1.91331269	0.87794384	618.00000000	1.00000000	3.00000000
STAB	323	2.00000000	0	646.00000000	2.00000000	2.00000000
SCHSIZ	323	2.52321981	0.50023381	815.00000000	2.00000000	3.00000000
SCHTYP	323	1.47678019	0.50023381	477.00000000	1.00000000	2.00000000
RIND	323	2.00000000	0	646.00000000	2.00000000	2.00000000
SEX	323	3.00000000	0	969.00000000	3.00000000	3.00000000
A3	323	2.00000000	0	646.00000000	2.00000000	2.00000000
B3	323	1.70437771	0.41040910	577.00000000	1.00000000	2.00000000
C3	323	2.00000000	0	646.00000000	2.00000000	2.00000000
VOCTS	323	18.91021672	12.78019463	6108.00000000	0	80.00000000
SEX	323	1.56965944	0.49589291	507.00000000	1.00000000	2.00000000
TV	323	17.99380805	17.19455799	5812.00000000	0	99.00000000
SES	323	1.89783282	0.43032735	613.00000000	1.00000000	7.00000000
TRAV	317	1.48580791	0.49529541	482.00000000	1.00000000	2.00000000

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0 / NUMBER OF OBSERVATIONS

	COMSIZ	INC	STAB	SCHSIZ	SCHTYP	RIND	SEX	A3	B3	C3	VOCTS
COMSIZ COMMUNITY SIZE	1.00000 0.0 323	0.04771 0.3923 323	0.00000 1.0000 323	-0.10799 0.0526 323	-0.10799 0.0526 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323
INC INCOME	0.04771 0.3923 323	1.00000 0.0 323	0.00000 1.0000 323	-0.04277 0.4433 323	-0.04277 0.4433 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.12000 0.0316 323
STAB STABILITY	0.00000 1.0000 323	0.00000 1.0000 323	1.00000 0.0 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323
SCHSIZ SCHOOL SIZE	-0.10799 0.0526 323	-0.04277 0.4433 323	0.00000 1.0000 323	1.00000 0.0 323	-1.00000 0.0001 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	0.00000 1.0000 323	-0.12000 0.0316 323

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CORRELATION MATRIX FOR ALL ITEMS 0116 TUESDAY, AUGUST 19, 1980 18

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0 / NUMBER OF OBSERVATIONS

	CONSIZ	INC	STAB	SCHSIZ	SCHTYP	KIND	SEX	A3	B3	C3	VOCTS
SCHTYP TYPE OF SCHOOL	-0.10799 0.0001 325	0.09277 0.0954 325	0.00000 1.0000 325	-1.00000 0.0000 325	1.00000 0.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325
KIND KIND OF SCHOOL	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325
SEX SEGREGATION 3	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325
A3	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325
B3	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	-0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	1.00000 0.0000 325	0.00000 1.0000 325	0.00000 1.0000 325
C3	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325
VOCTS PLACE VOCABULARY TEST SCORE	0.00000 1.0000 325	0.03200 0.5652 325	0.00000 1.0000 325	-0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	1.00000 0.0000 325	0.00000 1.0000 325
SEX SEX	0.01200 0.0307 325	0.00000 1.0000 325	0.00000 1.0000 325	-0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	-0.00000 1.0000 325	-0.00177 0.9746 325
TV TELEVISION VIEWING	-0.10823 0.0511 325	-0.00000 1.0000 325	0.00000 1.0000 325	-0.17000 0.0022 325	0.17000 0.0022 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.10823 0.0511 325	0.00000 1.0000 325	0.05333 0.3377 325
GEO TAKING GEOGRAPHY	0.00211 0.9697 325	-0.00000 1.0000 325	0.00000 1.0000 325	0.20000 0.0003 325	-0.20000 0.0003 325	0.00000 1.0000 325	0.00000 1.0000 325	-0.12333 0.0261 325	0.00000 1.0000 325	-0.00000 1.0000 325	
TRAV TRAVEL ABROAD	0.27000 0.0001 317	0.00000 1.0000 317	0.00000 1.0000 317	-0.34000 0.0001 317	0.34000 0.0001 317	0.00000 1.0000 317	0.00000 1.0000 317	0.00000 1.0000 317	0.00000 1.0000 317	0.00000 1.0000 317	0.00000 1.0000 317

	SEX	TV	GEO	TRAV
CONSIZ COMMUNITY SIZE	0.01200 0.0307 325	-0.10823 0.0511 325	0.00211 0.9697 325	0.27000 0.0001 317
INC INCOME	0.00200 0.9713 325	-0.00000 1.0000 325	-0.00000 1.0000 325	0.00000 1.0000 317

CORRELATION MATRIX FOR ALL ITEMS 0116 TUESDAY, AUGUST 19, 1980 19

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0 / NUMBER OF OBSERVATIONS

	SEX	TV	GEO	TRAV
STAB STABILITY	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 317
SCHSIZ SCHOOL SIZE	-0.00211 0.9697 325	-0.17000 0.0022 325	0.20000 0.0003 325	-0.34000 0.0001 317
SCHTYP TYPE OF SCHOOL	0.00211 0.9697 325	0.17000 0.0022 325	-0.20000 0.0003 325	0.34000 0.0001 317
KIND KIND OF SCHOOL	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 317
SEX SEGREGATION 3	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 317
A3	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 317
B3	0.00000 1.0000 325	0.10823 0.0511 325	-0.12333 0.0261 325	0.00000 1.0000 317
C3	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 325	0.00000 1.0000 317
VOCTS PLACE VOCABULARY TEST SCORE	-0.01177 0.8338 325	0.05333 0.3377 325	-0.00727 0.8959 325	0.00000 1.0000 317
SEX SEX	1.00000 0.0000 325	-0.01177 0.8338 325	0.01177 0.8338 325	-0.00000 1.0000 317
TV TELEVISION VIEWING	-0.01177 0.8338 325	1.00000 0.0000 325	0.01177 0.8338 325	0.00000 1.0000 317
GEO TAKING GEOGRAPHY	0.01177 0.8338 325	0.01177 0.8338 325	1.00000 0.0000 325	-0.01177 0.8338 317
TRAV TRAVEL ABROAD	-0.00000 1.0000 317	0.00000 1.0000 317	-0.01177 0.8338 317	1.00000 0.0000 317

CHAPTER 7

BRAZIL

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Overview of School System

The Brazilian school system is ruled by a 1971 federal law that fixed the directions and bases of schooling in the whole country. This law prescribes three educational levels: the first comprises elementary and junior high school and lasts eight years; the second corresponds to senior high school and goes on for three or four years; the third is the college or university phase and extends from four to six years. The law does not acknowledge the preschool but specifies that, for entering the first grade, the child must be seven years old. However, in many public schools and the majority of private schools, in the central and southern states of the country, preschool has been incorporated into the educational system.

The Brazilian educational system has two branches: a) a free-of-cost public system and, b) a paid private system that is both secular and ecclesiastical. The Catholic church has a clear predominance over other ecclesiastical educational institutions.

All schools are now coeducational, that is, students of both sexes attend the same institutions. In regard to hours of operation, there are daytime schools as well as nocturnal schools. But the first four grades of the first level (primary school) are open only during the daytime. Junior and senior high schools have governmental authorization to function at night.

The curriculum and programs of all schools, both public and private, diurnal and nocturnal, are almost identical and therefore all certificates are equivalent. The differences from one to another state of the country are the result of regional adaptations, mainly in the program content and especially in the examples utilized by various disciplines to illustrate their subjects.

With respect to the curriculum of the first and second level, federal law established: a) a common core program that will guarantee a minimum national unity in the Brazilian schools, and b) a diversified part that is flexible and permits the inclusion of regional differences in the program. It includes several courses dedicated to train medium-level technicians: elementary school teachers and various other types of personnel.

The common core program comprises several disciplines that are grouped in three great branches:

Communication and Expression, including: Portuguese; Brazilian and Portuguese literature; foreign languages (English and French); arts (fine arts, theater and music); and physical education (gymnastics, sports and corporal expression).

Social Studies, comprising: geography and history; Brazil's social and political organization; moral and civic education.

Sciences, comprising: mathematics, physics, chemistry and biology.

The pedagogical core program unfolds through activities and study areas in the first level, and school disciplines in the second level.

The state public schools are administered by a principal who is assisted by various levels of administrative personnel, all of them civil servants.

The public school buildings belong to the state government and their facilities include classrooms, administrative offices, laboratories, playgrounds, and basketball and soccer fields. Each state finances the public school system and because of the economic differences that exist among the different states and regions, the school system has to adjust to this reality. The south and southeast regions are better developed, and consequently their school systems have also better

operational conditions, that is, they have better trained teachers, better buildings, better educational material. The north, northeast and middle west regions are less developed economically, and therefore their educational systems suffer the consequences.

The teachers for the elementary schools come from the second level educational system whereas the teachers for junior and senior high schools are prepared at university level.

Place of Geography in the Curriculum

Geography has always occupied an important place in the curriculum of the Brazilian schools. Now, according to the federal education law, geographic knowledge must be integrated as follows in the curriculum: a) as spatial activities in the elementary grades, including location of the school, neighborhood, city, state and country (and the same with respect to identification, representation, relation); b) as social studies in the second level (junior high school) integrating, jointly with history and socio-political organization of Brazil, an area of study. The geography program in this area includes geography of Brazil, of Brazilian regions and of world continents; c) in the second level (senior high school) geography is an autonomous discipline and its major subjects are physical and economic geography.

The methodology and evaluation of geography instruction are regulated by state laws instead of the federal law previously mentioned. This is also true for all the other disciplines (mathematics, history, Portuguese, etc.). Therefore, our comments on methodology and evaluation refer only to the state of São Paulo where we work and where the study was done. The teacher in the classroom uses the methods and educational techniques which are more readily available to him. The most popular method used is still the lecture; it is used by the teacher to explain to students the subject of the day, and generally lasts 50 minutes. The teachers make use of such audio-visual aids as wall maps, school atlases, prints and drawings. The guided study method is also used by some teachers; in this case the teacher selects a textbook which is used as the basic reading text for the subject to be taught and learned. Excursions are also made to visit monuments and interesting geographic places, to cities, rivers, dams, caves, and to participate in sporting and cultural events.

The evaluation of the students is solely the responsibility of the teacher. The teacher is the person who decides the kinds of exams and tests, and who also prepares the final and mid-term exams. Students are evaluated in different ways: oral and written tests, writing of papers, class presentation of previously assigned topics, and group discussion. The grade range goes from zero to ten and grades are given every two months totalling four grades during the school year. Five is the passing score. The final grades represent the arithmetic mean of the four grades gained during the school year. Only students who pass in all of the disciplines are promoted to the next grade. The passing and promotion model was established by a state educational law that must be followed by public as well as private schools in all grades of the different educational levels.

Analysis of Data

Due to the size of the country (3,288,240 square miles) and of the population (116,393,100 estimated in 1978 based on the 1970 census), it was impossible for us to carry out the study in the whole country with a representative sample of .005 of the thirteen year-old population. They total 2,327,862 and therefore the sample size would have amounted to 11,639 adolescents.

As an alternative, we decided to carry out the study in the state of São Paulo and limit the size of the sample to 500 subjects. It was also agreed among us that the subjects had to be drawn from cities of different sizes: metropolis, suburb*, large city, medium size town and small towns. One hundred subjects represented each city category, so more than one small town had to be included in order to complete the sample in the small towns.

The capital city of São Paulo, with 8,320,460 inhabitants, represented the metropolis; Osasco, with 497,037 inhabitants, represented the suburb; Campinas, with 536,653 people, symbolized the large city; Rio Claro, with a population of 88,987, represented the medium-size town; and Cordeirópolis (7,327), Corumbataí (2,135), Itirapina (5,688) and Santa Gertrudes (5,972) comprised the small towns.

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* The term suburb is used in Brazil to designate the outskirts of a metropolis. It has poor living conditions, insufficient water supply, no sewage and garbage disposal system, poor lighting and poor public transportation services, high infant mortality rate, and is unsafe. The suburbanites, in general, belong to the low-medium class and commute, in crowded buses and trains, to work in the metropolis.

All the subjects of the study were 13 years of age (all were born in 1966). 269 were girls (53.80%) and 231 (46.20%) were boys attending, during daytime, the 6th and 7th grades in 14 public schools of the first level. In the 6th grade were enrolled 292, or 58.40%, of the subjects and 208, or 41.60%, in the 7th grade.

Of the fourteen schools, one had less than 100 students, seven had between 100 and 1000 students, and six had more than 1000 pupils. All participant schools had the same curricula, the same geography program, the same number of hours per week of geography (three hours)* and the teachers had identical professional preparation in geography as well as in social studies and teaching.

The data were collected from 18 to 27 of June 1979 during class hours by the respective geography teachers under the supervision of Lucy Machado, coauthor of this study. Each participant was instructed not to consult any book or map and to answer all the questions.

Findings and Discussion

The overall results demonstrated that the subjects of the study encountered great difficulties in associating places with their correct location on the world outline map.

Table 1 shows that the plurality of the students (42.40%) fell within the lowest score range and that only 6.40%, or 32 of them, fit into the higher score range of 41-50. In our opinion the following factors may in part explain this poor result: 1) the small scale of the world outline map; 2) a chronic shortage of maps in the schools; 3) the majority of the subjects were enrolled in the 6th grade where geography is integrated in the social studies. These factors, however, do not fully explain the difficulties encountered by the students. Probably the main issue is the educational policy, in the sense that it is not sensitive enough to the implications of geography teaching and its importance in the preparation of future world citizens.

Table 1: Frequency and % Distribution of Place Vocabulary Score Ranges for 50 Places

Place Vocabulary Score Ranges	Number of Students	Percent
41-50	32	6.40
31-40	67	13.40
21-30	65	13.00
11-20	124	24.80
0-10	212	42.40
Total	500	100.00

N=500

For interpreting the results, the data were grouped in "Oceans and Seas," "Countries," and "Cities." A consistent downward pattern emerged in which "Oceans and Seas" occupied first place with a 65.12% (326 students) followed by a 33.80% (169) students) for "Cities" and a meager 29% (145 students) for "Countries."

Within the "Oceans and Seas" the following percentages were found: Atlantic 74%, Arctic 70%, Indian 63%, Caribbean 60%, and Mediterranean 57%. Oceans were better associated (69%) than seas (58.50%.) The influencing factor for better identification of the oceans, we believe, resides in the relative higher visibility of the Arctic and Atlantic Oceans.

In general, the "Countries" scores were low. Brazil, the homeland, received the higher relative score with 92%, or 460 of the 500 participants, able to correctly associate their homeland on the map. This result was a surprise because a 100% correct response was expected. There is no completely satisfactory explanation for this cultural innocence. One fact mentioned by a teacher may in part explain this result; that it was the first time her pupils were seeing an outline map of the world. Besides, the illiteracy rate among Brazilian adults is high, and we know beyond any doubt that the social and cultural influences of the home have a good deal to do with performance in the school. In addition, more public attention is devoted to internal problems and developments than to international events.

Turkey and Indonesia presented the lowest scores (10% and 10.40%). Other countries with low scores were: Poland 11.60% (or only 58 students) correctly associating it; Ethiopia and Iran 12% (60 students); Zaire and the Philippines 13% (65 students); Nigeria and Yugoslavia 15% (or 75 subjects); Saudi Arabia 18.20% (or 91 students); and Sweden 19.40% (or 97 students). With the exception of the Americas, all the continents are represented here.

In regard to the "Cities," the relatively low score of Rio de Janeiro (76.80%,

* In the 6th grade, geography is taught as part of the social studies, but it also has three hours per week.

or 384 students) was not expected and there is the aggravating circumstance that Rio was the only Brazilian city marked on the map. Yet, it was by and large the higher score among the names of the 13 cities marked on the map. Buenos Aires appeared in second place with a 49.80% of correct answers. On the other hand, Johannesburg and Calcutta presented the lowest scores with 15.40% and 12.60% respectively.

As expected, the countries and cities of Latin America were better associated than the places on the remaining continents and regions of the world (Table 2).

Table 2: Percent Distribution of Correct Place Association According to Continents and Regions

Continents and Regions	Number of Correct Answers	Percent
USA and Canada (3 items)	598	39.86
Latin America (10 items)	2546	50.92
Western Europe (7 items)	844	24.11
E. Europe & USSR (4 items)	486	24.30
Africa (8 items)	858	21.45
Asia (11 items)	1125	20.45
Australia (2 items)	379	37.90
Total N=500	6836	27.34

Yet, the score is low since, out of a total possible score of 5000 on all ten items of the Latin American region, the 500 students' scores totalled 2546, or only 50.92%. In second place appears the U.S.A. and Canada with 40% of the total possible scores. Asia, Africa, Eastern and Western Europe received the lowest scores. We expected higher scores for Western Europe assuming that students were more familiar with the names and locations there. The single factor for Australia appearing with better scores than Europe, Asia and Africa is its higher visibility.

In general, the larger countries were better associated than the smaller countries (Table 3) and we attribute it to their higher "visibility." The good results Argentina obtained, 308 students (61.60%), may be explained by the contiguity factor, by a long tradition of rivalry in soccer games added to the fact that the eleventh quadrennial World Cup championship was held in Buenos Aires in 1978. Moreover, the racing season for

Table 3: Ranking of Larger and Smaller Countries and Percent of Correct Associations

Larger Countries	%	Smaller Countries	%
USSR	41.00	Cuba	26.60
Canada	39.40	U.K.	22.00
Brazil	92.00	Yugoslavia	15.20
China	27.60	Philippines	13.80
Australia	46.40	Italy	20.20
USA	43.00	Poland	11.60
India	24.40	Japan	33.20
Argentina	61.60	Sweden	19.40
N=500			

Formula One automobiles opens every year in Argentina in January. With regard to the smaller countries, Japan got the top score (33.20%) or 166 students associated it correctly; Brazil has a large number of Japanese and the majority of them and their descendants reside in the state of São Paulo. The relative better score of Cuba may be explained in terms of its greater visibility, a factor that is also valid for Japan. Both countries are islands.

Table 4 shows that distance is an important factor for correct association, and as distance increases the scores decrease.

Among the countries adjacent to Brazil, Argentina appears in first place. The African countries were considered fairly distant and South Africa obtained the higher score (47.20%). We attribute this result to the popularity among adolescents of the Formula One race, and the South African contest comes just after the race in São Paulo. For this motive South Africa makes headlines in the local newspapers and the race there is also televised. With regard to Zaire, we think that they knew it more by the old name of The Congo; they may have encountered the same kind of difficulty with Ethiopia, better known by the previous name of Abyssinia.

Among the far away countries, Japan appears in first place with 33.20% and the explanation given before is as valid here.

Table 4: Percent Distribution of Adjacent, Fairly Distant, and Far Away Countries

Adjacent (Latin America)	%	Fairly Distant (Africa)	%	Far Away (Asia)	%
Argentina	61.60	S. Africa	47.20	Japan	33.20
Chile	50.80	Egypt	24.40	China	27.60
Mexico	38.60	Algeria	19.40	India	24.40
Peru	36.00	Nigeria	15.00	Saudi Arabia	14.20
Colombia	35.40	Zaire	13.20	Philippines	13.80
Cuba	26.60	Ethiopia	12.00	Iran	12.20
				Indonesia	10.40
				Turkey	10.00
Mean % N=500	41.15		21.87		18.72

But the results may be different if the test were applied in other states of Brazil with smaller or no Japanese immigration.

In regard to Indonesia, it is worth noting that the students have heard more often the names of the islands (Java, Borneo, Sumatra) and did not associate them with Indonesia.

The findings on grades (Table 5) indicate that seventh-graders performed twice as well as sixth-graders (46.74% vs. 22.82%). In our opinion the reason for this great difference lies in what was previously mentioned, that is, that geography is integrated in the social studies subject in the 6th grade, whereas in the 7th grade geography is an autonomous subject. The meager performance of the sixth-graders influenced the total scores in the study.

The study demonstrated that boys performed better than girls on the test, but the difference is not too great (36.25% for the boys, 29.78% for the girls). The reasons for the lower performance of the girls are complex and the interactions of other variables might be responsible.

The data were also analyzed using a contingency coefficient C. The use of this statistical test provided a measure of the extent of relation between the dependent variable (answers given by the participants) and the independent vari-

Table 5: Percent Distribution of Correct Place Association According to Grades and Sex

PLACES	GRADES 6th N 292	%	7th N 208	%	SEX Boys N 231	%	Girls N 269	%
Oceans & Seas (5 items)	659	45.10	964	92.69	801	69.35	822	61.11
Countries (32 items)	1734	18.55	2548	38.28	2173	29.39	2109	24.50
Cities (13 items)	939	24.73	1349	49.88	1213	40.39	1075	30.74
Total N=500	3332	22.82	4861	46.74	4187	36.25	4006	29.78

ables (size of cities, size of schools, travel experiences, and hours of TV watching per week).

The answers given by the participants were also grouped in three categories of places: "Oceans and Seas," "Countries," and "Cities." The independent variables were categorized as follows: a) the size of the cities in metropolis, suburb, large city, medium-size city and small town; b) the size of the schools of less than 100 students, from 100 to 1000, and more than 1000 students; c) the travel experiences in the state of Sao Paulo, in other states of Brazil, abroad, and no travel experience; d) the hours of TV watching per week in four score ranges, 0-25, 26-50, 51-75, 76-100.

Table 6: Contingency Coefficient C and Chi-Square Scores Comparing Independent Variables with Correct Place Association

Variables	C	x^2	df
Size of cities	.14	162.54*	8
Size of schools	.02	5.25***	4
Travel experience	.52	1436.56*	6
TV hours/week	.03	10.23**	6
N=500	* P<.001;	** P<.100;	*** P<.300

The findings from the data permit us to conclude that there is a relationship between the variables and that these relations are statistically significant, as shown in Table 6. Travel experiences got the highest correlation with correct place identification on the world outline map; that is, travelled students seemed to answer more correctly. The size of the school variable showed the least significant relation.

Implications and Recommendations

There is need to plan programs which will reestablish and maintain the quality of geography teaching, with support devoted to continuing consultation as a means of maintaining quality. The potential contributions of successful geographic teaching experience have not always been fully utilized. This potential does not necessarily lie in the production of more geographers. It lies rather in the structuring of organized services in such a way as to permit the influence of good geography teaching to be more widely felt.

The investment of geography teachers' abilities in developing any one aspect of social studies must be weighed against their investment in any specific aspect of geography, their investment in other school programs, and the investment in other sectors of geography teaching.

The map needs to be utilized, not only as a visual aid, but as a communication source. Maps represent a form of language that should be incorporated in the school geography program as subject matter and therefore incorporated into the basic skills learned by children from the first level of the educational system. The basic map skills would be reached after the child has developed spatial mental operations, working for example with interpretation of map scales, location of places on maps, and use of different projections and symbols.

Geography needs to be taught as an autonomous discipline beginning with 11-12 year-old students. According to Piaget, the child at this age has already reached the concrete operational stage which permits him to work with spatial relations, including maps.

The relative contribution of several factors to the correct association of names of places and their location on the map needs to be identified more precisely.

CHAPTER 8

REPUBLIC OF IRELAND

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Overview of School System

Administration and Organization

State authority in education in the Republic of Ireland is vested in the Minister for Education, who is a member of the government and accountable to Dáil Éireann, the lower house of parliament. The Minister's administrative agency is the Department of Education, which has responsibility for all national educational affairs, there being little regionalization of administration. The Department prescribes the educational programs, approves the qualifications of teachers and subjects schools to inspection. The bulk of current and capital costs in education is financed by the state, education accounting for nearly one-fifth of all state expenditure and being equivalent to 5% of the GNP. In 1978, 27% of the population was recorded as receiving education; of the 887,000 students, 63% were at first level, 32% at second and 4% at third level.

School attendance is compulsory between the ages of 6 and 15 but most children commence primary school in their fourth year and there are few primary students aged over 13 years as nearly all now transfer to second level schools. This trend had been greatly accelerated in the 1960s by the raising of the school leaving age from 14 to 15 years and the introduction of free post-primary education. The consequent change in the role of primary schools, from providing the sole basis of formal education for a considerable proportion of the population to developing the potential of students so that they will benefit from further education, had major implications for first level education. The terminal Primary Certificate examination was discontinued in 1967 and a new curriculum was introduced in 1971. The rigid compulsory program of instruction for all schools was replaced by a child-centered curriculum which permits a high degree of flexibility for the individual student and teacher.

With the increasing educational expectations of the population, there has been a major expansion in second level education, accentuated abruptly by the introduction of free schemes for post-primary education and school transport in 1967. Over 98% of primary school leavers now enter the second level sector. Almost all students are aged 12-18 years, with the full program extending over five or, less commonly, six years. There is a Group Certificate examination for students of about 14-15 years, mainly in the vocational education sector, but the public examinations taken by almost all students at the appropriate levels are those for the Intermediate Certificate at 15-16 years and the Leaving Certificate at 17-18 years. In 1978 there were 49,400 candidates for the Intermediate Certificate and 35,800 for the Leaving Certificate.

School Types

Of the 561,900 students in first level education in 1978, 96% were in state-supported primary national schools. Although most of the finance derives from the Department of Education, school ownership is on a religious denominational basis and local management is by boards representing the appropriate religious authorities, teachers and parents. Less than half of the students attend schools run on a full coeducational basis. The mean enrollment of the 3,450 national schools is 160, with 1,811 having less than 100 students and only 6 exceeding 1,000. There is an average of five teachers per school but 36% of establishments are one- or two-teacher schools. The small schools are mainly in rural areas and in some there are problems of inferior buildings and equipment. In some expanding urban areas, problems relate in part to large class size, 8% of all students being in classes of 45 or more. The 108 private fee-paying schools are not supported by the Department of Education and are mainly junior primary sections of secondary schools in urban areas.

Of the 273,600 students following post-primary courses in 1978, 70% were attending secondary schools, 22% vocational schools and 7% community and comprehensive schools. The secondary schools are pri-

vate institutions run mainly by Roman Catholic religious orders, with some run by individuals or boards of governors. The latter include the twenty-three Protestant secondary schools. The Department of Education pays the bulk of teachers' salaries and gives per capita grants to schools on the basis of their enrollments. A supplementary grant is paid to each school which does not charge fees and 86% of secondary schools have adopted this free education scheme. Over one-half of the fee-paying schools are in County Dublin, mainly in the higher income south-eastern and southern sectors of the city. One-third of the fee-paying schools are Protestant establishments, none of which provide free education because the state subvention does not meet the high cost of providing education for the dispersed minority population, so it is used to give grants to those students considered to be more in need. Secondary schools provide a largely academic education, while vocational schools afford a mixed general and practical education. Vocational schools in each county or city are under the management of a committee elected by the local government authority for the area. The Department of Education provides about two-thirds of the cost, the balance being met by the local authority. Vocational schools provide free education, as do the community and comprehensive schools. The latter two are state-financed, are managed by local committees, and provide academic and practical subjects. The community and comprehensive schools have been established since the 1960s, mainly either where existing educational provision was inadequate because of isolation or new urban development, or where an existing school or merging of schools provided a basis.

The 824 post-primary schools comprise 532 secondary schools, 245 vocational schools, 39 community and comprehensive schools and 8 other schools. The mean number of students per school is 344 but there is size variation by type, 279 being the average for vocational schools, 363 for secondary schools and 520 for the more modern community and comprehensive schools. Schools of enrollment size 200-500 account for 56% of the total, with only 15 establishments exceeding 800, and 47 under 100.

Coeducation is still in a minority situation in Irish education, 59% of students attending single-sex schools. This is largely attributable to the secondary school sector, where 81% of students are in single-sex schools. Coeducation in secondary schools is largely limited to Protestant schools and to other schools in small towns, where the desire to maintain units of viable size is promoting a trend toward coeducation. Mixed schools predominate in the vocational, community and comprehensive sectors, there being 25 single-sex schools in the larger urban areas.

Geography in the Curriculum

The new primary school curriculum is an integrated one which envisages geography being taught within social and environmental studies. In the early years, some material of a geographic nature is included in the social and environmental studies syllabus but geography is not specified as a subject. A separate syllabus for geography is given from third class, so that children begin to study geography as a subject when they are 8-9 years old.

Geography is offered to Intermediate Certificate level in all post-primary schools. In a small number of schools it is taught with English, history and civics as part of integrated studies projects. In most schools it is taught as a separate subject but the Department of Education grants it only half-subject status with history in terms of school timetabling, so that students have geography for two or three class periods of forty minutes each per week. Candidates at the Intermediate Certificate examination in 1978 took a mean of 8.3 subjects. The geography examination was taken by 92% of all candidates, the remainder being mainly students in vocational schools. Geography and history ranked together after the proportions taking mathematics (99%), English (97%) and Irish (95%), and well ahead of the next subjects, French (69%) and science (67%).

Geography is offered at Leaving Certificate level in over four-fifths of post-primary schools, most of those in which it is not taught being vocational schools. It stands as a separate subject, usually with four or five class periods per week. Candidates at the Leaving Certificate examination in 1978 took a mean of 6.5 subjects. The geography examination was taken by 55% of all candidates, ranking below English (95%), mathematics (93%), Irish (92%), and French (58%) but above biology (48%), history (36%), and the twenty-five other subjects examined. Five years previously, geography was taken by 72% of candidates and it was firmly established as the next most popular subject after the English-Irish-mathematics core. It is not easy to isolate the reasons for the decline in the relative position of geography but two principal factors seem to be involved. One is the increasing attention being given to vocational considerations, in that the sciences, languages, business studies and technological subjects are perceived by students as offering greater employment prospects than does geography. The second influence is a feeling amongst students and

teachers that it is comparatively more difficult to achieve high examination grades in geography than in many other subjects, a factor affecting the decisions of better students in particular because of a university entrance points system which emphasizes the attainment of high grades.

There is much concern about this decline at Leaving Certificate level among geography teachers who see it, perhaps combined with the possible growth of integrated studies at lower levels, as a major threat to geography which necessitates investigation and remedial action. Alternatively, it might be viewed as an anticipated trend toward greater conformity with other countries from the situation in which geography occupied an abnormally strong position throughout the Irish school curriculum.

Geography Courses and Evaluation

The primary school curriculum lists the activities which might guide the work in geography in third and fourth classes under the headings of:

...weather
...animals, crops, products, etc.
...map interpretation, the locality
...home county
...Ireland
...other lands

In fifth and sixth classes, a greater depth of study is envisaged under the headings:

...weather
...local geography and map interpretation
...Ireland
...Great Britian, Europe, the world
...the globe
...power and fuel
...transport

The curriculum stresses the importance of fieldwork, projects and sample studies in addition to the role of formal teaching. In contrast with a remarkable degree of uniformity which had prevailed under the old curriculum and textbooks, there is considerable variation in methodology and content between teachers and schools. This is in part a result of the informality of the new curriculum but also because of a wide divergence between teachers in the extent to which they have adopted a new methodology.

The Intermediate Certificate syllabus comprises:

...practical geography (map study, geographical pictures and graphical representation of data)
...physical geography
...human geography
...regional geography (Ireland in detail, the European Economic Community and outline treatment of the world)
...fieldwork
...geographical literature

The two-hour examination requires the answering of five questions, normally comprising a multiple-choice question, two questions from a section on practical and systematic geography and two from a regional geography section. Less than one-third of students opt for an alternative syllabus in which there is an addition to the examination of an half-hour and a question on North or South America. Up to 10% of the marks may be awarded for fieldwork assessed by the teacher. The syllabus does not specify a sequence of treatment of the content, so there is variation in approach between teachers, though with some tendency toward uniformity amongst those using the same textbooks. Some teachers treat the individual sections of the syllabus separately over the three years, others favor a more integrated approach. A common sequence is to study the local area and systematic geography in the earlier part of the course and regional geography in the later.

In the Leaving Certificate syllabus there are four sections:

...mapwork
...a systematic section in which there are physical, social and economic subsections
...regional geography relating to fourteen countries of western Europe
...field studies

Over half of the students take a higher level examination paper in geography, and the remainder an ordinary level paper, each of three hours duration. Half of the higher level examination is on systematic geography, requiring one question to be answered from each of any two of the systematic subsections, together with one on mapwork and one on regional geography. At ordinary level, the course is the same but there is a fifth examination question which may be taken from any of the sections or relate to a world map. Fieldwork is not assessed separately but some of the examination questions are designed to incorporate aspects of field studies.

The major trends in geographic education throughout the school system over the last two decades have involved diminishing emphases on regional geography, factual knowledge and formal learning, with corresponding increasing attention to systematic geography, principles and active participation by the students.

Analysis of Data

Sample

Of the total population of 3.365 million in the Republic of Ireland in 1979, 67,200, or 2.0%, were aged 13 years. The suggested sample of .005 of the population in this age group would be 336, so the sample size was set at 350 students.

In compliance with the project instructions, the sample was stratified in an attempt to approximate the society of the state according to geographic distribution, urban-rural residence, economic levels, race and religion, though some of these criteria presented certain difficulties. It was felt that type of school is an important indicator, reflecting economic, social, interest and ability variations, though not always clear-cut distinctions. The sample was stratified by school type according to the national distribution of the appropriate age group: secondary, 240 (68%) students in ten schools; community and comprehensive, 25 (7%) students in two schools, one in each category; vocational, 85 (24%) students in three schools.

It is likely that there is an upward gradation in income levels from vocational schools to fee-paying secondary schools but the non fee-paying secondary schools are very mixed in that they are the only secondary schools throughout most of the country unless students are sent to boarding schools. Two of the vocational schools were described by the teachers as low income and the third average; the community and comprehensive schools were described as low and average; the secondary schools were described as average except for one lower income, and the only two fee-paying Roman Catholic schools which were stated to be upper income.

In order to achieve the appropriate geographic distribution, the nine planning regions in the country were used as the frame and the sample was distributed amongst them in the same proportions as the appropriate age category of the national population. It was more difficult to be specific about the urban-rural distinction, as most post-primary schools are in towns but with catchment areas which incorporate rural districts, one-third of all students availing of the school transport service. The County Dublin proportion of the sample was set at 29% and schools elsewhere were selected to represent what was considered to be the appropriate size of town and urban-rural mix. One school was taken to represent the 4% Protestant minority in the population but the religious distinction is not complete, as most Protestant schools now have some Roman Catholic students and there are small numbers of Protestant students attending the publicly owned schools and, to a lesser extent, the Roman Catholic secondary schools. There are no racial distinctions.

Scores

The mean score of the 350 students in the Republic of Ireland sample was 28.34. The range of scores is shown in Table 1. At the extremes, there was one student who did not answer any item correctly and eight who had all correct, the standard deviation being 12.8.

Table 1: Range of Scores

Scores	Number of Students	Percentage of Students
41-50	68	19.4
31-40	91	26.0
21-30	104	29.7
11-20	45	12.9
0-10	42	12.0
	350	100.0

The level of answering was substantially better for Oceans and Seas than for Countries and Cities. The mean number of errors recorded per item were: Oceans and Seas, 65; Cities, 150; and Countries, 165. Of the fifty items, the Arctic and Atlantic Oceans were the two for which the least number of errors were recorded. Universal cognition factors have clearly affected recognition accuracy. The items are ranked according to diminishing accuracy of recognition by type of feature in Table 2.

A distinctive feature of the country ranking is that all of the western European states and the former British overseas territories having developed market economies are in the first ten places, and of these first ten ranked countries, only the USSR does not have those characteristics. This ranking accords with the strong residential and vacation preferences shown by Irish school leavers for countries with developed market economies and occidental culture located in Europe and former British territories overseas (Gillmor, 1974). The same influence seems to be reflected in the city ranking, with the low position of Johannesburg as the exception. Although the mean number of errors per item was less for cities than for

Table 2: Item Analysis of Errors for Each Feature

Feature	Number of Errors	% Students Giving Wrong Answers
Oceans & Seas		
Arctic Ocean	16	4.6
Atlantic Ocean	36	10.3
Indian Ocean	84	24.0
Mediterranean Sea	92	26.3
Caribbean Sea	99	28.3
Countries		
Australia	43	12.3
United Kingdom	43	12.3
France	44	12.6
USSR	44	12.6
Spain	58	16.6
Italy	64	18.3
Sweden	75	21.4
Canada	85	24.3
United States	92	26.3
South Africa	118	33.7
India	122	34.9
Mexico	125	35.7
Brazil	127	36.3
China	145	41.4
Poland	155	44.3
Argentina	163	46.6
Chile	179	51.1
Japan	179	51.1
Yugoslavia	197	56.3
Turkey	199	56.9
Countries (cont'd)		
Egypt	204	58.3
Peru	236	67.4
Philippines	242	69.1
Cuba	246	70.3
Colombia	249	71.1
Saudi Arabia	249	71.1
Nigeria	255	72.9
Iran	261	74.6
Zaire	264	75.4
Algeria	270	77.1
Ethiopia	274	78.3
Indonesia	283	80.9
Cities		
London	46	13.1
Paris	56	16.0
Moscow	82	23.4
New York	84	24.0
Sydney	93	26.6
Mexico City	131	37.4
Tokyo	180	51.4
Calcutta	189	54.4
Buenos Aires	202	57.7
Cairo	207	59.1
Rio de Janeiro	223	63.7
Peking	225	64.3
Johannesburg	231	66.0

countries, more errors were recorded for each city than for the state in which it is located, except for New York and the USA; the mean number of errors was 150 for the cities and 111 for the corresponding countries.

Possible Correlations

School Type. School type was the most important variable and it in turn influenced or reflected other variables. Correlation of test scores with school categories gave a coefficient of 0.466, highly significant at the .0001 level. Score ranges and means by type of school are shown in Table 3. Scores for vocational schools are in striking contrast to those for other categories, the mean score being little more than one-half those of the other types. The modal class for vocational schools is the 0-10 score and the distribution is distinctly positively skewed, whereas the other schools are negatively skewed with modal classes of 21-30 and 31-40. Because of the substantial proportion of vocational students who had low scores, these schools accounted for 72% of the students with scores of 0-10 and 55% of those with 11-20, compared with their 24% share of the total sample. The relatively poor performance of vocational students may be attributed in part to the lower status of geography as compared with more academic schools and to lesser teachers' qualifications in geography, but it is likely that other important influences are: 1) the higher proportion of academically less able students and, 2) the more educationally disadvantaged backgrounds from which they come.

That students' abilities and attitudes are more significant than the form of teaching which they have experienced is suggested by the early stage in their post-primary careers at which the survey was done. The survey results do not indicate that school ownership alone is the main criterion, as the vocational and community/comprehensive schools are publicly owned but the latter were similar in performance to the privately owned secondary schools, though their

sample size is small.

Community Factors. Income level and school type are associated and this is reflected in the survey results. The mean scores by income level were: two schools described by teachers as upper income, 33.6; nine average income schools, 30.8; four lower income schools, 20.9. The correlation coefficient of scores with income level was 0.354 which is highly significant at the 0.0001 level.

School locations and catchment areas made an urban-rural analysis impossible. Designation of community type by teachers was difficult and inconsistent but correlation with scores gave a coefficient of 0.146, significant at the 0.006 level, though deductions about the effect of city size would not be justified. All of the communities were described by the teachers as stable, so no distinction on this basis could be made.

Television Viewing. The mean number of hours of television viewed per week by respondents was 17, one-sixth of them watching 30 hours or more and the standard deviation was 12. Score variations computed for different levels of TV viewing were slight: 0-9 hours, 28.7; 10-19 hours, 29.3; 20-29 hours, 27.4; 30+ hours, 26.3. The correlation coefficient of scores with TV viewing was -0.013, significant at only the .05 level. Much more significant and complicating any association is the variation in TV viewing between schools, the mean hours per school ranging from 8 to 26. The four lower income schools had the four highest viewing figures and the two higher income schools recorded the lowest and third lowest viewing values. TV viewing correlated negatively with income, the coefficient of -0.382 being significant at the .0001 level. Associated with the income factor, the time available for TV viewing is less for boarding students than for those residing at home. Correlation of TV viewing with the mean scores of the fifteen schools gave a negative, but not significant, coefficient (r= 0.24). On an individual school basis, the viewing class recording the highest mean score was: 0-9 hours, 3 schools; 10-19 hours, 2 schools; 20-29 hours, 6 schools; 30+ hours, 4 schools, the numbers of students in these latter instances being small.

Table 3: Scores by Type of School

School Type	Number of Students	Range of Scores (% Distribution)					Mean Score
		0-10	11-20	21-30	31-40	41-50	
Secondary	240	5	8	33	30	24	31.9
Vocational	85	36	28	19	12	5	16.8
Community/ Comprehensive	25	4	4	32	36	24	33.4
All Schools	350	12	13	30	26	19	28.3

Perhaps it is not surprising that the data relating to TV viewing and performance are conflicting and inconclusive. Watching TV may be expected to increase place awareness but students with high viewing levels are likely to be those who spend less time studying. The range of television channel choice and type of programs watched are also relevant. In much of the west and south only the two Republic of Ireland channels (both Radio Telefis Éireann) are available to viewers but many in the east and north also receive three United Kingdom channels (two British Broadcasting Corporation and one Independent Television) with longer transmission times. It is probable that the BBC programs have the greatest non-Irish place content. In educationally disadvantaged homes, it is likely that there is more television viewing and that the programs watched have a lower educational content. The instance of Iran suggests that TV coverage does not guarantee student recognition. Although Iran figured prominently in the news during 1979, only 25% of respondents located it correctly and it was the country with the fifth highest number of errors recorded.

Travel Experience. Whether or not students had been outside of Ireland was taken to be the most relevant aspect of travel experience, there being the possibility that those who have been abroad might have greater place awareness. The proportion of respondents who had traveled overseas was 53%, Great Britain being the most common destination, followed by main-

land western European countries. The mean score of those who had been abroad was 30.1 and of those who had not traveled outside Ireland, 26.3. The correlation coefficient of test scores with foreign travel was 0.142, significant at the .008 level. In twelve of the fifteen schools, the mean scores of those who had been overseas were higher than those of students who had not been abroad. By school, the proportion of students who had been overseas ranged from 17% to 95%. The two higher income schools showed the greatest travel experience, but the lower income schools were not among the least traveled. The distinction seems to be mainly on the basis or city size, the proportion or urban students and location with respect to passenger seaports and airports; the propensity to travel is greatest among residents of large urban centers convenient to departure points.

Most of the schools with the highest travel experience are in Dublin, all of those above the mean figure being in the east region with the exception of one school with a small sample in a large provincial city. Within a particular city or school, it is probable that income level affects the travel experience of individual students, so that family socio-economic conditions are likely to have had a bearing on the results.

Geography in the School Program. As geography is taught in all of the sample schools, the only possible distinction would be between those in which it is a separate subject and those in which geography is part of an integrated program. It could be assumed that in integrated studies there would be less emphasis on location geography but this might have little effect on the results because of the early stage of the post-primary career at which the survey was done. Three of the fifteen schools sampled had an integrated program and they ranked sixth, seventh and fourteenth in performance, no valid deductions being possible.

Sex of Students. In the Intermediate Certificate geography examination in recent years, the performance of boys has been better than that of girls. In 1977 and 1978 the mean percentages of students attaining a grade C or higher on the two syllabuses were 46% for boys and 39% for girls, whereas the proportions getting a grade E or lower were 20% for boys and 26% for girls. Thus it might have been expected that there would be a difference on the basis of sex in the survey scores. In fact, the mean score for male respondents was 26.6 and for females 30.3, with a correlation coefficient of 0.149, significant at the .005 level, but these values reflect varying proportions of boys and girls in the samples from different schools. If the mean scores are computed by school type, the value for boys is slightly higher in each instance: secondary schools, 32.8 and 31.3; vocational schools, 17.2 and 13.3; community/comprehensive schools, 34.3 and 31.6. There was no statistically significant relationship between students' test scores and attendance at boys', girls' or coeducational schools.

Conclusion

Two factors which seem likely to have had an important influence on the Irish results of the test are: 1) trends in geographic education and, 2) the stage in the geography curriculum at which the test was taken. Teachers generally felt that students in the past would have performed better on the test, as expressed in comments on the questionnaires and in accompanying letters and verbal reports. This is largely attributable to the increasing emphasis on systematic geography, local studies, principles, analysis and techniques with a corresponding diminution in regional geography, place knowledge and factual description.

The major changes which have accompanied the new primary curriculum are particularly relevant as most of the students tested were at the beginning of either their first or second year of post-primary education. From the second level viewpoint, another factor affecting the trend is the extent to which the rapid expansion in participation has resulted in a major increase in the proportion of less able students in the attendance at post-primary schools. Although the Intermediate and Leaving Certificate syllabuses include or state the need for students to have a broad knowledge of the main features of world geography, there is little direct examination testing of this knowledge. Furthermore, those second level teachers who teach this knowledge directly would not normally have included it in the first year or early second year course, so that in most post-primary schools it would not have been studied by the stage at which the test was taken.

The trend toward greater emphasis on concepts and the acquisition of skills and less on memorization of factual knowledge is very desirable but it is important that, in the process of their geographical training, students should acquire a locational awareness of places in the world. Perhaps the principal thing which employers expect students to have gained from their study of geography is place knowledge and it is also important as a background to an understanding and appreciation of current af-

fairs. One teacher remarked that a consequence of the place vocabulary survey is that she now gets students to locate on the world map those places currently figuring in the news. An adequate basis of place knowledge can be acquired painlessly and does not necessitate a return to the repetitive memorization of the 'capes and bays' approach of earlier geographic education. With reference to regional geography, the virtual confinement of the Irish syllabuses to western Europe enables attention to focus in depth on one area but neglects the socialist sphere, the new world, the developing nations and cultures other than the occidental realm.

The survey indicated, in the Irish context, substantial differences in place knowledge by individual school and especially by type of school. Much more extensive research would be needed to determine the validity of and reasons for these differences and to investigate their existence with reference to other aspects of geographic education. Breatnach (1976) demonstrated and delimited educationally disadvantaged areas in Dublin and although the problem is spatially less distinct elsewhere, it is very real and widespread. There is an urgent need for thorough investigation and for remedial measures, perhaps involving the development of new and flexible curricula and teaching methods adaptable to the local circumstances.

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CHAPTER 9

THE NETHERLANDS

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Overview of School System

In years past, the Dutch were very strict in religious matters and this had an effect on education. There was (and is) an intermingling of Roman Catholic, Protestant and non-sectarian humanist viewpoints which brought an amalgam of methods and rules. There were too, political parties based on religious fundaments and they demanded financial support for parochial schools. So it was that in 1920, public and private primary schools were set on the same financial footing and this parity now applies to all schools. Schools are operated by local boards and the government's function, other than financial, is in the administering of external final examinations to assure the level of knowledge and skill being acquired by all students in all schools.

Currently, while the rate of irreligiousness is rising, the school population is still nearly divided equally between schools of Roman Catholic, Protestant, and public (non-sectarian) origin. It is common to have small neighborhood elementary schools with six classes, one of each grade. In villages one can see a small public or sectarian school with combined classes, and at a distance of a few hundred yards, another school of the same size and type, operated by another sect or publicly run.

In primary education, school organization is simple, in spite of the splintered pattern of administration. All children move from the first through the sixth grades in relatively small neighborhood schools in an atmosphere that is not far removed from what the child is accustomed to at home, which is nearby. Because of the lack of central administration or direction, curricula and teaching methods show a great diversity which presents problems for students and teachers alike upon the completion of primary education and the beginning of further schooling.

Kinds of Schools

In secondary education, school organization is more uneven. Not only is one confronted with the same tripartite operation of schools, but there also exist four major types of secondary schools. Despite this fracturing of types of schools, the secondary curricula are more consistent and similar than might be expected. This is so because there is a current move to create comprehensive secondary schools, and the fact that most teachers tend to follow curriculum guidelines established by the central government for non-sectarian secondary schools. Textbook publishers have also followed these guidelines, a move that has had the effect of somewhat systematizing instruction throughout the secondary schools, parochial and public.

Since the central government administers external final examinations at the leaving level of each type of secondary school, teachers are bereft of the flexibility of becoming creative and innovative, knowing that they must teach what the students will need to know for the examinations.

The four major types of secondary schools that occur as separate units and as comprehensive schools in many combinations are:

I. Lower vocational education, 4-year courses, (LBO), mainly divided as:
   - Technical Schools (LTO)
   - Domestic Science Schools (LHNO)
   - Commercial Schools (LEAO)

II. Intermediate general education, 3- and 4-year courses (MAVO)

III. Higher general education, 5-year courses, (HAVO)

IV. Pre-university education, 6-year courses, divided as:
   - Athenea
   - Gymnasia
   - Lycea (combinations of Athenea and Gymnasia)

In LBO schools, the first two years of secondary education (grades 1 and 2, comparable to U.S. grades 7 and 8) are focused on general education, but the curriculum is different from non-vocational

schools. In geography, for instance, regional studies of areas of the Netherlands are emphasized. Teachers have the option of organizing geographic studies as "world orientation," an interdisciplinary approach, including other social studies, biology and physics.

At the LBO level, there are also curricula that have been developed for students who require more individualized teaching due to difficulties in learning or adjustment. These streams are known as ITO and IHNO.

A plan has recently been adopted to offer three levels of graduation from vocational studies (LBO). Students passing at C-level receive qualifications equal to graduation from intermediate general education secondary schools (MAVO). C-level is, therefore, the most theoretical stream within the vocational education schools, and is seen as the most difficult.

Only fifteen years ago, 50% of secondary students attended an LBO school; presently, only 30% attend such schools. Specific craft training has been reduced and more general subjects have been introduced. Further vocational training is available after finishing LBO at C-level, or the MAVO in schools for intermediate vocational education (MBO). Additionally, an apprenticeship scheme offers vocational training during employment, combined with general and vocational secondary education for one day per week in school for students not eligible nor willing to enter the MBO program.

As in other countries, socioeconomic factors seem to have an effect on the types of students that attend different types of schools. Students from upper middle class families are underrepresented in vocational schools, and those from lower middle class families are not well represented in numbers in schools for pre-university education. Studies show that the Schools for Intermediate General Secondary Education (MAVO) are in effect community institutions and reflect the average of the national socioeconomic stratification.

Place of Geography in the Curriculum

In elementary schools, teachers choose, and purchase, the textbooks to be used in the classroom. Contrary to expectations, in most schools one finds the same set of geography textbooks that was published ten years ago. This evidently successful series provides sound geographic information which is arranged thematically and includes a good teacher's guide. The students are taught simple map skills and topographical learning tasks.

With growing prosperity and the greater complexity of society, the trend has been to more general secondary education and that includes geography during two periods a week as a separate subject in the lower grades of MAVO, HAVO, Atheneum, Gymnasium, and Lyceum schools. In these schools, or the comprehensive alternatives, textbooks are used which have two editions: one for MAVO and another for the other types of schools. It is also possible, and gaining in popularity, to use a text based on the philosophy of mastery learning because there is a trend toward large secondary schools with heterogeneous classes in the first two years. Having many parallel classes of the same grade (with several teachers), in addition to the task of determining the future school career of the student, makes planning far more urgent than it was in the elementary schools. This involves planning for the type of final examination the student will take, and in preparation for it, a certain amount of memorization.

In the first grade (7th grade, U.S.), basic concepts are taught applied to European regions and in the second grade (8th grade, U.S.), world geography is emphasized in either a thematic or regional study. The Netherlands is studied in the third grade (9th, U.S.), and in grades beyond that point, geography is optional as are all other subjects. Students choose a combination of subjects (including the study of the native language and one foreign language), and those majoring in science can seldom find an opportunity to include the study of geography.

The external final examination for general secondary education in geography has been compulsory only since 1979, and consists of short, structured questions. The results make up half of the final mark on the diploma, the other half being derived from course work and school administered tests during the final year.

The National Institute for Test Development has tried to determine their reliability, but because these geography examinations cannot be standardized, a conclusive judgement is not possible. Levels of discriminating ability, however, seem to be higher in MAVO than in other types of secondary schools, so the MAVO schools can be considered successful educational establishments.

Geographic Instruction

Teacher education in The Netherlands

takes place at a variety of institutions according to the age level and type of school in which the prospective teacher wishes to find employment. Only three of the five universities where geographers can obtain a teacher's certificate have fully equipped departments for geographic education, and even then a major involvement in that field is not compulsory for the student.

In the small, mostly neighborhood elementary school, teachers often teach all of the subjects taught. There is great variety in educational aims among teachers, elementary and secondary, who are relatively free from external control due to political and educational policies mentioned earlier. In elementary education, it is not clear how much geographic content is really taught, what role the textbook plays in the learning process, nor how intensively topographic facts are memorized. It is possible too, to use textbooks merely as another source within a small library, along with information kits. In some of the schools, in some way or another, students assimilate geographic knowledge by working in small groups collecting information and by participating in the dissemination of the essentials to the entire class through discussion or formal presentation.

The use of maps and the atlas is encouraged in whatever method of instruction is employed. Often, however, secondary teachers complain that students are not capable of using these tools and that they must start over and instruct them in their uses. In only a few places are map skills and geographic information processing incorporated into the proficiency test given at the end of primary education. In most cases, the test is limited to language usage and arithmetic.

Analysis of Data

Representativeness of Sample

The Netherlands has a population of 14 million, and nearly 250,000 thirteen-year-old children. The country has a high population density, there being 410 people per km^2 (1070 per square mile). All secondary schools are located in communities of an urbanized rural or urban character (Table 1). While all children live in close contact with an urban way of life, differences in lifestyles are recognized among those living in municipalities of more than 100,000 population, which comprise about 26% of the population.

The great variety of types of secondary schools makes difficult the task of obtaining a sample that is representative of the entire educational system. Other factors also enter into the problem where thirteen-year-old students and a representative sample are concerned: slow learners must repeat grades and are older than 13 years when they reach secondary school (especially the Lower Vocational Schools), and there has been an influx of children of migrant workers from the Mediterranean countries.

Table 1: Origin of Students Entering Secondary Schools, 1977/78

	Boys %	Girls %	Total Pop. %
Rural municipalities	13.1	13.6	11.7
Urbanized rural municipalities	38.6	37.7	35.9
Urban municipalities	48.2	48.5	52.4

The test was administered in some of the schools in June 1979 at the end of the first year of secondary school, and in the majority of schools in August-September of 1979 at the start of the second year. Of a total of 687 participants, 503 students fall within the age condition. Table 2 shows the numbers of students participating in the four major types of secondary schools.

Table 2: Students Participating in the Place Vocabulary Test

Type of School	Students Born 10/1/65-9/30/66	All Students
I. Lower vocational	86	198
II. Intermediate general	127	161
III. Higher general	114	133
IV. Pre-university	176	195
Total	503	687

Ranges of Scores

Table 3 gives the test results in the four types of secondary schools. It shows that considerable differentiation occurs between the types of schools, which falls within the range of expectation.

Table 4 indicates the distribution of scores between the types of schools. While in the schools of groups III and IV there is not a score of 10 or lower, the schools

of group I have 25.6% of students in that range. On the other hand, all schools

Table 3: Test Results by Type of School

Type of School	Mean Average Score
I. Lower vocational	21.07
II. Intermediate general	34.40
III. Higher general	35.52
IV. Pre-university (78,Lyceum;98,Atheneum)	42.77

are represented in the highest scores. In The Netherlands, the common belief has been that topographical knowledge of students is limited. These results show, however, that they possess more knowledge than previously thought and that, only in group I, more than half of those tested scored 30 or lower. Overall, there seems to be satisfactory scores among 13-year-olds in general secondary education. This cannot be the result of a first-year geography course, however, for in that grade, European areas mainly are studied. Previous education in primary school must have played a considerable part in the subjects' place-name knowledge.

By making regional combinations of the items on the test and by ranking from best to worst, it can be observed that nearly the same order appears. There are only gradual differences between the types of schools, and it appears that there is not a fundamental distinction in the structure of memorizing between students assigned to different schools (see Tables 5 and 6).

Table 4: Distribution of Scores (%) by Type of School

Type of School	Range of Scores 0-10	11-20	21-30	31-40	41-50
I. Lower vocational	25.6	27.9	18.6	19.8	8.1
II. Intermediate general	3.1	8.7	22.0	29.1	37.0
III. Higher general	——	7.0	24.6	30.7	37.7
IV. Pre-university	——	0.6	7.4	22.2	69.9
National	11.48	15.3	19.1	24.7	29.48

Observed Correlations

Television Viewing. Generally, it was found that the amount of time spent in television viewing did not produce significant differences in scores among subjects. Table 7 shows television viewing hours for students in the four types of secondary schools.

Only in schools for pre-university education (Table 8), is it evident that average viewing hours correspond with a lower than average score, and more than 15 hours of TV viewing per week corresponds with a higher than average score.

Travel Experience. Because of a lack of time, this correlation was not explored to the fullest. Table 9 shows the number of subjects surveyed in representative schools. Categories A and B represent schools in small provincial towns where many students live in surrounding rural areas; category C is a school in a major city.

Because of the restricted number of subjects, no definite conclusions can be drawn as to the effect of travel experiences on place-name knowledge. It can be recognized, however, that girls from schools I-A, I-B, and II-A show a similar pattern and that those of school I-C have had different travel experiences. There are girls in I-A (30%), and I-B (24.4%) who had not traveled more than 100 km from their homes; this did not occur in school I-C, and only occasionally in other schools.

In general, students from general education schools have greater travel experiences, but a considerable number had traveled no more than 400 km from their homes. No correlation was discovered between test scores and travel experience. It is clear, however, that lines can be traced separating the types of schools,

Table 5: Percent Correct Answers by Regional Groupings (of map names)

Regional Place Names (and map numbers)	Type of School I	II	III & IV	National
Oceans (1-5)	68.9	91.8	96.3	83.5
North & Middle America (6-9, 38, 39)	41.7	71.5	84.1	62.1
South America (10-14, 40, 41)	21.6	51.5	62.4	41.7
Europe (15-21, 42, 43)	66.7	91.0	96.6	82.4
Soviet Union (22, 44)	75.6	89.0	97.1	85.3
Islamic & Middle East Countries (23-26, 31, 45)	24.3	50.5	68.5	43.6
Middle & South Africa (27-30, 46)	21.6	47.2	63.0	40.1
South & East Asia (32-36, 47-49)	29.9	60.9	74.8	51.3
Australia (37, 50)	58.7	83.9	91.0	75.2

social stratification and test scores.

Community Factors. Because of the variety of administrative groups which operate Dutch schools--public, private, secular, parochial--social stratification occurs as to type of school as well as in

Table 6: Rank Order of Places Known

	Type of School I	II	III & IV	Nat.
Soviet Union	1	3	1	1
Oceans	2	1	3	2
Europe	3	2	2	3
Australia	4	4	4	4
North & Middle America	5	5	5	5
South & East Asia	6	6	6	6
Islamic & Middle Eastern Countries	7	8	7	7
South America	8/9	7	9	8
Middle & South Africa	8/9	9	8	9

Table 7: TV Viewing by Type of School

Type of School	TV Hrs./Week per Student
I. Lower vocational	13.25
II. Intermediate general	14.20
III. Higher general	13.36
IV. Pre-university	13.51
Mean	13.61

Table 8: TV Viewing Related to Average Test Scores

TV Hrs./Week	Type of School I	II	III	IV
	Average Score			
0 - 10	21.6	33.3	34.6	43.7
11 - 15	21.9	34.6	36.8	41.3
over 15	20.0	36.2	35.8	44.4

Table 9: Distribution of Schools Used for Research About Travel Experience

Type of School	A		B		C	
	girls	boys	girls	boys	girls	boys
I. Lower vocational Domestic science Commercial school	30		41		19	22
II. Intermediate general	40	25				
III. Higher general					17	8
IV. Pre-university	30	53			10	15

Table 10: Travel Experience of Students

Distance Traveled (km)	Type and Location of School											
	I-A	I-B	I-C		II-A		III-C		IV-A		IV-C	
			girls	boys	girls	boys	girls	boys	girls	boys	girls	boys
0 - 200	53.3	43.9	5.3	31.8	27.5	16.0	17.6	12.5	23.3	11.3	20.0	20.0
201 - 400	30.0	22.0	5.3	4.5	30.0	16.0	----	25.0	16.7	24.5	----	26.7
401 - 800	10.0	9.8	10.5	13.6	7.5	12.0	23.5	----	16.7	28.3	10.0	13.3
801 - 1500	3.3	7.3	42.1	27.3	22.5	52.0	29.4	37.5	33.3	24.5	50.0	33.3
1501 - 4000	----	12.2	21.1	13.6	10.0	----	23.5	12.5	3.3	3.8	20.0	6.7
over 4000	3.3	4.9	15.8	9.1	2.5	4.0	5.9	12.5	6.7	7.5	----	----

its location--rural or urban. The schools selected were not chosen to point up differences, good or bad, between urban and rural schools as it was not likely that those differences would be substantial. In studying the results, it would appear that the sex of the subject is a more important determinant than the location of the school.

Table 11 indicates the correlation of test scores by sex and the percentage of difference between girls and boys. The consistency of the differences is evident. Based on the figures for those students and schools shown in Table 9, it did not seem necessary to go through the procedure of checking all of the participating schools for further proof; the affirmative result of a difference of 22.6% from a comparison between 80 girls coming from two schools for domestic science and 49 boys from a technical school seemed a positive support.

Geography in the School Program. The description in the first part of this report of school organization and the great variety and freedom to interpret the curriculum and to organize the learning process makes it clear that no correlation

Table 11: Correlation of Test Scores with Sex of 13-year-old students and Percentage of Differences Between Sexes.

Type of School	Average Score		Differential Percentage
	Girls	Boys	
I	26.86	35.00	23.30%
II	27.45	36.97	25.80%
III	30.10	41.50	27.50%
IV	37.64	46.23	18.60%

will be found with the applied research method. Perhaps the answer can be found in learning from which primary school the student comes. It would appear that the strength of--or lack of--the geographic background that a student brings from his or her primary years has more effect on his or her place-name knowledge than the first year of secondary education when the thirteenth year of age is reached.

The organization of the curriculum in secondary education makes it likely that geography lessons or the substitution of that subject by "world orientation" has had no influence on the results of the test. The similarity mentioned in discussing the Ranges of Scores earlier, concerning the ranking of regional combinations of test items in the various types of schools indicates that the influence from primary education is considerable. The distinction in knowledge between girls and boys is perhaps an indication that also a kind of discovery learning occurs both inside and outside the school.

Commentary and Conclusions

Evaluation

Although Dutch participation in this research project was not optimal due to the limited size of the sample and the handicap of making calculations without a computer, enough progress has been made, nevertheless, to judge the results worthwhile. To my knowledge, figures have become available for the first time to support a fundamental discussion.

The most important fact seems to be that teachers, in both primary and secondary education, can replicate this or a similar test and reflect on measures to be taken based on the results. For example, should the primary teacher feel responsible for more specific training of those students intending to go to lower vocational schools, taking into account that their basic structure of knowledge seems to be equal to that of other students? Should the teacher take affirmative action to insure that girls acquire the same basic place knowledge as boys?

No correlation has been found between travel experience and scores within a school, but it seems likely that the following lines can be traced: lower socioeconomic status gives a greater likelihood of attending a lower vocational school, also, some chance for limited travel experience, certainly more probability to have a limited toponymical knowledge. In heterogeneous classes, how are teaching methods adapted to prevent the fulfillment of this prophecy?

Differences in performance in geography of boys and girls have been reported here and in other studies. In this case, however, the divergence surpassed expectations. The question is whether these differences are due to instinctive reactions or are they a result of manipulations within a culture? An hypothesis could be that purposeful training and the memorizing of toponymical knowledge falls into the background in modern schools and this course of events emphasizes differences of interest among students. Whatever, it may be, teachers in The Netherlands should be aware of it, draw conclusions and plan actions.

Recommendations

To verify the results of this study in the Dutch educational system, undertaking a comparable research project on a larger scale is advisable. An extension to 11-year-old students and to fifteen- and seventeen-year-olds could give more insight into the development of place awareness.

The variety of teaching methods makes it necessary to check an adequate number of thirteen-year-olds individually about their primary school experience. Only then can it be seen if relationships exist between test results and the earlier development of map skills, the teaching of geography as a separate subject and the degree of formal training and memorization. These investigations should be linked with research about the function of toponymical knowledge and what it can and should be for people living in this age.

From a theoretical point of view, further investigation concerning the structure and content of mental maps is recommended. In this connection, it could be advisable to introduce two new concepts apart from the broad concept "mental map."

In close investigations about the development of the mental map, most research is done with young children using models and symbols of small areas represented on a large scale. The ideas connected with this type of research cannot easily be transferred to the learning process dealing with maps of a much more generalized form on a world scale.

This investigator advocates the use of the concept "map picture" when dealing with acquiring knowledge about contours and the position of the elements, for example, by directing students to color maps to mark places, boundaries, rivers, etc. In addition, he would use the term "map print" when it is obvious, or when we can suppose that the knowledge is based purely on rote learning even though the pro-

cess may be influenced by the use of aids to memory by using such devices as rhyming, jingles, shape similarities, or other place-name memory associations.

A certain deliberate introduction for getting a "map print" can be useful, but--and this is important--the acquisition should be in a positive way, for example, by using round games, jigsaw puzzles for individual and group activities with a mild form of competition, etc. The pleasure of "flirting with a subject" is, however, closely tied to certain years. When, at an older age, some toponymical knowledge must be added, it has to be done in a functional way. Beyond that, use of the atlas should constantly be encouraged for dealing with details.

CHAPTER 10

NORWAY

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Overview of School System

In Norway, children attend public schools for twelve years. School attendance begins at seven years of age and the first nine years are considered elementary school, during which years the personal development of the child is emphasized. Traditional report cards, in recent years, have been replaced by guidelining and personal oral evaluation. In the upper three years of elementary school, however, some traditional examinations are given.

Students attend school 37 weeks of the year. During the first school year, they have 15 periods of 45 minutes every week, gradually increasing to 30 periods in the fifth school year. The number of pupils in a class cannot exceed 30, and usually the number is 20-25. In the rural areas of Norway, schools are often small (10-50 students) with two or more classes meeting in the same classroom. One of the schools in the sample (Oklungen) was this type of school. In general, Norwegian educational authorities favor relatively small elementary schools (50-200 students) in both towns and cities and in the rural areas. The last 3 years of elementary school is called Youth School (comparable to middle or junior high school in the United States). This type of school is, generally, more centrally located, which means that students may change schools when they enter the seventh grade. Characteristic of this level (grades 7-9) is a broad variety of subjects based upon personal choice limited to about one-fifth of the total number of periods.

The typical gymnasium (grades 10-12) has recently changed name and content, and is now being integrated as one of several curricula within the advanced public school system (videregående skole). Some of these curricula are practical and some are preparation for college or university study.

The public schools of Norway are regulated by law and centrally administered by the Department of Education and Church Affairs. Public education is financed by the national budget up to about 80% of the costs. Local municipalities are delegated the practical operation of elementary schools, employing teachers, building school buildings, etc.

Kinds of Schools

There are a few private schools in Norway but the majority of students attend public schools. Special education schools and those for handicapped students are also part of the public education system. Depending upon the degree and type of handicap, however, such students are increasingly being educated in regular schools.

The public school system of Norway has centrally developed plans of education with the pattern plan (mønster plan) of 1974 being used as the base in elementary schools. This master plan, however, permits the schools to retain a high degree of freedom in subject matter content and in teaching methods.

Place of Geography in the Curriculum

Today, geography at all levels is considered a part of the so-called orientation subjects in the elementary school (history, geography, local nature, environment, etc.). The plan for the first six grades is based on item or project (problem oriented) education, in which regional/geographical aspects proceed from the locality toward the global/international scene.

As far as practical and possible, authorities favor integrated cooperation between two or more teachers in these projects. Some of the new and most interesting trends in orientation education in Norway are linked to local regional projects: the Lofoten project, the Loppa project, and others, favoring integration of history, geography, knowledge of local nature,

landscape, etc. In these projects, international aspects which touch local rational problems are also emphasized.

The regional/geographic aspect of the orientation subjects varies from grade to grade in the elementary school, but generally follow these upper limits:

Grade 1	2 periods/week
Grade 2	2 periods/week
Grade 3	2 periods/week
Grade 4	4 periods/week
Grade 5	4 periods/week
Grade 6	7 periods/week

In the Youth School, only 1 period per week is included as a part of general social studies.

The pattern plan has guidelining year plans included. As to the geographic aspects, examples of studies for some grades might be:

Grade 1

Play and toys: toys are brought from home, students play with them and talk about them

At the school: roads and streets; cars and buses; traffic rules; models

The daily rhythm:

Home and family: the house and its rooms; family members; family types

Children elsewhere: in Norway and other countries

Time and seasons:

Grade 2

Summer memories:

At the market: products and where they come from; weight, prices, etc.

Seasons and work: different economies, etc.

Children in other countries: play, homes, food, clothes

Grade 3

Maps: classroom, schoolyard, neighborhood, etc.

The city or the village: main features; geographic concepts such as river, lake, valley, island, forest, mountain. Drawing, excursions

Nature conservation: conservation and recreational areas; pollution; rules

Travel activities: bus routes; railway stations; routes; airports; reporting about travel; maps of travel routes; routes on the globe

Communications and mass media: mail; a letter's way from sender to receiver

Foreign countries: foreign plants and animals; United Nations, UNICEF, UNESCO; music, fairy tales

Geography as a separate subject in grades 4-7 is more generally described in the pattern plan. Of the proposed items, teachers can stress some, and more superficially penetrate others. The description of geography for these levels emphasizes a global perspective. Through mass media, students learn of other places and often are more interested in other countries and parts of the world than in their own localities. To help students understand that their locality and country are parts of the wide world, "the teacher therefore every year ought to introduce geography lessons with an outlook to the world outside Norway and Europe."

Methodology and Evaluation of Geography Instruction

Mentioned above are some of the main features of the methodology of geographic instruction which may be characterized in terms of integration, global orientation of local regions and problems, project teaching and guidelining, rather than traditional pupil evaluation.

The main criticism of geographic education in Norway may be directed against the following trends:

1. Rigid period limitation of the school day that prevents effective project orientation.
2. Lack of skilled geographers in the elementary school. In practice, teachers may qualify for competence in geography if they have academic competence in history or social studies, and vice versa.
3. The heritage of traditional "blind" map reading and boring descriptive lexical education in geography.
4. Problems in synthesizing natural and social aspects of geography according to the traditional, and very strong, gap between cultural and physical geography in Norwegian colleges and universities.

Analysis of Data

Representativeness of Sample

In this project Norway contributed a rather small sample of 13-year-old students (a total of 144). The variety of living conditions and school sizes in Norway was, however, reflected by the chosen schools from Telemark, ranging from small rural schools to schools in a city of over 100,000 people. The main features and similarities in test scores, in spite of school location and/or size, affirm a general impression of the rather strong and homogeneous influence of the pattern plan, especially the global view in geographic education in Norway. The findings are indicated in Tables 1-5.

Table 1: Distribution of Scores

Range of Scores (Correct Answers)	Percent
41-50	43.06
31-40	20.14
21-30	14.58
11-20	13.19
0-10	9.03

Table 2: Near vs. Far (map numbers)

Distance	% Correct Answers
Farthest Places [1]	59.09
Nearest Places [2]	84.75

[1] all Latin American and African countries and cities; Caribbean Sea, Turkey, Iran, Indian Ocean, Calcutta, Indonesia, Philippines

[2] Norway, Sweden, Arctic and Atlantic Oceans, Poland, Moscow, USSR, France, Paris, England, London

Table 3: Boys vs. Girls

Group	Mean Score
Boys	34.97
Girls	32.12
Total	33.49

Table 4: TV Viewing

Range of Scores	TV Hours/Week
41-50	15.39
31-40	13.69
21-30	18.24
11-20	13.74
0-10	17.31
Total	15.42

Table 5: Travel Experience

Range of Scores	Only Norway	Scandinavia	Beyond
41-50	25.8	40.3	33.9
31-40	27.6	27.6	44.8
21-30	23.8	33.3	42.9
11-20	52.6	15.8	31.6
0-10	30.8	53.8	15.4
Total	39.9	34.7	35.4

The sample population is too small to draw precise quantitative conclusions as to correlations of TV viewing, travel experience and community factors, and test scores. The classes had the same number of periods of geography in the 6th grade (usually 2 hours per week), although the degree of global oriented project education or map reading exercises varied.

In general, television viewing is restricted to the one and only national channel in Norway. The geographic events of the daily television news are often presented in a combined manner: words, pictures, maps. The effect of map reading exercises in school and seeing maps on television and elsewhere would be an interesting study in itself.

It should also be mentioned that the Telemark fylke (county) is one of the most active orientering sports districts in Norway and the world. From age eleven or twelve, thousands of children, every week in spring and autumn, fun orientering with map (1:15 000) and compass in the forests. These activities are organized as competitions or are undertaken as exercise or family outings. Schools often make their own orientering maps. It would be interesting to compare students having this map-

making and reading experience with students who do not engage in this type of activity.

Commentary and Conclusions

Evaluation and Recommendations

The test shows interesting trends among the nations but is perhaps too ethnocentric in its choice of place names and their degree of mental and geographic distance to students in various countries. At the age of twelve, according to Piaget, students are very concrete oriented. The effect of map reading exercises, both in and out of school, rather than television viewing, travel experience and general geography lessons, should be studied more precisely in order to analyze the variations, i.e., map reading exercises linked or not linked to television viewing, lessons, orientering, travel experience, etc. A quantitative approach to place name knowledge among thirteen-year-old students is of restricted value. It should be supplemented by teacher interviews and ethnocultural studies.

Place name learning is traditionally associated with the most blind and ritual, meaningless aspects of geographic education in Norway. Still, the public schools overflow with textbooks without names, with students more or less forced to use much time on place name orientation that is not linked to meaningful problems. The World Place Vocabulary Test does not, in itself, discover these non-learning aspects. Further studies should perhaps stress approaches to the importance of place name knowledge (local, national, international) among children in various cultures, and how and why they obtain that knowledge.

CHAPTER 11

POLAND

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Organization of Studies

Studies of the knowledge of geographic place vocabulary on a world outline map were conducted in sample schools during November and December, 1979. The tests covered 302 students of the 7th class of primary school. The sample contained 150 boys (M) and 152 girls (F), and the tests were carried out in fourteen classes of ten schools. Of the 302 subjects, 173 (57.28%) were from schools in the city of Warsaw and the remaining 129 (42.72%) represented schools in small towns and rural areas. The schools were grouped, in this report, as "schools in Warsaw" and "schools beyond Warsaw." The schools beyond Warsaw were located in five different small towns and rural locations. This sample was determined in order to represent Polish schools from various environments and an analysis of the results showed that scores obtained were dependent on the location of the school.

Eight of the ten schools in which the tests were conducted had 100-1000 students and the other two had over 1000 students. Teachers of geography for classes in the study are employed in the schools permanently. Students born during the year 1966 were tested; they were generally in the 7th grade.

All Polish students in the primary schools study geography according to a uniform and obligatory curriculum:

4th grade - nature of the homeland
5th grade - elements of general geography and characteristics of typical world landscapes
6th grade - geography of Poland
7th grade - 1. Europe and Asia: common review of continents and general information
2. countries of Europe: (a) Soviet Union and European socialistic countries; (b) capitalistic countries of the world
3. countries of Asia: China, Mongolia, Korea, Vietnam, Japan, India, Pakistan, Ceylon, Indonesia, and Near East countries
8th grade - 1. Africa: general knowledge
2. North America: general knowledge of the United States and Canada
3. Central America: general knowledge of Mexico and Cuba
4. South America: general knowledge of Brazil and Argentina
5. Australia
6. Antarctica
7. Poland in the political-economic world

The curriculum for teaching geography in grades 4-8 in Poland has a spiral structure. This means that the same questions appear in various grades and are discussed in wider and wider ranges. The geography of Poland is found in the 4th, 6th, and 8th grades and regional geography in the 5th, 7th, and 8th grades. The Place Vocabulary Test was carried out according to the recommendations for securing the objectivity of the results.

Collective Test Results

In Table 1, the collective results of testing are shown as reflected in schools in Warsaw and those beyond Warsaw. Over seventy-one percent of the 302 subjects scored in the range of 41-50 (71.85% correct answers); 15% had scores of 31-40. The results must be considered as satisfactory. The distribution of scores has been calculated for the total sample as well as for schools in Warsaw and those beyond Warsaw. Essential differences between the achievement of students from schools in Warsaw and those from beyond Warsaw could then be identified. Significant differences between the achievement of boys and girls did not occur.

Data about the knowledge of specific oceans and seas, countries and cities on the world map are found in the analysis of errors (below).

Analysis of Errors

Interesting data was obtained by an analysis of errors made by students in their recognition of selected oceans and

Table 1: Distribution of Scores by Location and Sex

Range of Scores		In Warsaw n	In Warsaw %	Beyond Warsaw n	Beyond Warsaw %	Total n	Total %
(41-50)	Male	71	23.50	40	13.24	111	36.85
	Female	71	23.50	35	11.59	106	35.00
	Total	142	47.00	75	24.83	217	71.85
(31-40)	Male	6	1.98	12	3.97	18	5.96
	Female	13	4.30	16	5.30	29	9.60
	Total	19	6.28	28	9.27	47	15.56
(21-30)	Male	5	1.65	13	4.30	18	5.95
	Female	7	2.32	6	1.99	13	4.31
	Total	12	3.97	19	6.29	21	10.26
(11-20)	Male	0	0.00	1	.33	1	.33
	Female	0	0.00	3	.99	3	.99
	Total	0	0.00	4	1.32	4	1.32
(0-10)	Male	0	0.00	2	.66	2	.66
	Female	0	0.00	1	.33	1	.33
	Total	0	0.00	3	.99	3	.99
Total	Male	82	27.10	68	22.52	150	49.62
	Female	91	30.18	61	20.20	152	50.38
	Total	173	57.28	129	42.72	302	100.00

seas, countries and cities on an outline world map. The analysis allowed the identification of the least known items. The numbers of mistakes made by the subjects is presented in Table 2.

Analysis of the data shows that Polish students made the most mistakes in recognition of the position and naming of cities (18.06% of incorrect answers, Table 2). The difference between the numbers of mistakes made by students in Warsaw and those from schools in small towns and villages appears significant. Subjects from schools beyond Warsaw made significantly more mistakes, 26.72%, as compared to subjects in Warsaw schools, who averaged 11.61% errors. Warsaw students made over 21% errors only in one case, that of identifying Johannesburg, while those students from schools beyond Warsaw made 58% errors for the same city. Both groups achieved the best results in knowing the name and location of Moscow. The Warsaw group made 0% mistakes and the beyond Warsaw group made 2.3% (3 mistakes).

Students from schools beyond Warsaw made a large number of errors in locating and naming the following cities:

Calcutta	62.0%	Rio de Janeiro	35.6%
Johannesburg	58.1%	Sydney	34.9%
Cairo	44.2%	Mexico City	22.6%

Somewhat fewer mistakes were made in the naming of countries, a total of 14.5% (Table 2). In this part of the test, subjects from beyond Warsaw made far more mistakes (20.40%) than those from Warsaw (10.24%). In the group of schools in Warsaw, over 20% of the mistakes were made identifying the countries of Nigeria (32.90%), Indonesia (24.30%), Colombia, (23.70%), and Peru (22%). In the group of schools beyond Warsaw, a significantly greater percentage of mistakes appeared; for example, Indonesia, 44.2%. Also having over 40% incorrect answers were Nigeria, Ethiopia, and Algeria (Table 2).

The smallest number of errors occurred in the recognition and naming of oceans and seas, 5.17% (Table 2), though twice as many errors were made by subjects from beyond Warsaw. The most difficult item in this section was the location of the Caribbean Sea, 7.9% incorrect (Table 2).

Table 2: Rate of Errors

Feature	Schools in Warsaw (%)	Schools Beyond Warsaw (%)	Total (%)
Oceans & Seas			
Arctic Ocean	.06	3.10	1.60
Atlantic Ocean	1.70	6.20	3.60
Caribbean Sea	6.90	9.30	7.90
Indian Ocean	5.20	6.90	5.90
Mediterranean Sea	5.20	8.50	6.60
Total	3.93	6.82	5.17
Countries			
Algeria	17.90	41.80	28.15
Argentina	6.40	10.80	8.28
Australia	1.20	10.80	5.30
Brazil	6.90	10.80	8.61
Canada	6.40	21.70	12.91
Chile	14.50	24.30	18.87
China	4.60	8.50	6.29
Colombia	23.70	38.80	30.13
Cuba	10.40	22.60	15.56
Egypt	7.50	26.30	15.56
Ethiopia	15.60	42.00	26.82
France	.60	10.10	4.64
India	10.40	21.70	15.23
Indonesia	24.30	44.20	32.78
Iran	19.00	37.20	26.82
Italy	2.90	5.40	3.97
Japan	2.90	12.40	6.95
Mexico	9.20	14.70	11.92
Nigeria	32.90	42.60	37.09
Peru	22.50	27.10	24.50
Philippines	10.40	17.80	13.58

Feature	Schools in Warsaw (%)	Schools Beyond Warsaw (%)	Total (%)
Countries (cont'd.)			
Poland	.00	.70	.33
Saudi Arabia	17.30	18.60	17.88
South Africa	9.20	18.60	13.25
Spain	5.80	13.20	8.94
Sweden	2.30	6.90	4.30
Turkey	13.30	29.50	20.20
United Kingdom	5.80	9.30	7.28
USSR	.60	2.30	1.32
United States	.60	13.90	6.29
Yugoslavia	6.40	18.60	11.60
Zaire	16.20	27.80	21.19
Total	10.24	20.40	14.58
Cities			
Buenos Aires	11.00	17.00	13.58
Cairo	16.20	44.20	28.15
Calcutta	16.80	62.00	36.09
Johannesburg	21.40	58.10	37.09
London	7.50	13.90	10.26
Mexico City	13.90	22.60	17.55
Moscow	.00	2.30	.99
New York	2.90	12.40	6.95
Paris	3.50	10.80	6.62
Peking	14.50	17.00	15.56
Rio de Janeiro	17.30	35.60	26.16
Sydney	13.90	34.90	22.84
Tokyo	12.10	16.30	13.91
Total	11.61	26.72	18.06

By grouping names of countries and cities according to continents, it could be seen that the best known countries and cities were on the European continent, over 94% correct answers. This was observed in the schools in Warsaw and in those beyond (Table 3). The poorest results were achieved by subjects in the correct naming of countries and cities in Africa, with 74.09% correct answers.

It is emphasized that, when comparing the schools, the correlation between the location of the school and the results on the tests can be noted. This correlation points to the deficiency of the schools existing in small cities and villages.

Apart from this, some of the poor results on the test on continents is due to the fact that the test had not been adjusted to the curriculum of Polish schools. A considerable percentage of the mistakes were made by subjects from schools beyond Warsaw in the naming of countries and cities in Africa, over 37% of the incorrect answers. As noted in the Organization of Studies, the geographic theme of this continent is the basis of teaching only in the 8th grade.

Correlation Between Test Results and the Number of Hours of TV Viewing

For the purpose of analysis, TV viewing by subjects was ranked in divisions of 10 or less hours, 11-20 hours, 21-30 hours, and 31 or more hours per week (Table 4). The data shows that 43% of the subjects watch TV up to 20 hours weekly, 24% up to 30 hours per week, and 28% up to 10 hours per week. The amount of TV viewing is almost the same for subjects in schools in Warsaw and in those beyond Warsaw. No correlation was observed between test scores and the amount of TV viewing. Students who did well and those who did poorly are to be

found in the high TV viewing range (20-31 hours weekly), as well as those who watched TV for 10 hours or less per week.

To test the reliability of the data about hours of TV viewing per week as reported by the subjects, the following actions were taken: students from one school were given TV programs I and II from Poland and asked to underline the programs which they watched during the week. A tabulation was made dividing the duration of the mentioned programs by the number of days in a week. This tabulation was compared to the hours reported by the subjects and it was determined that they reported their TV viewing accurately.

TV programs watched most often were:

1. Newsreel
2. "The Afternoon of Knowledge and Fantasy"
3. The Club of the 6th Continent
4. Nature films, e.g., "Volcanoes of the World," "The Biggest Rivers of the World," "Animals of the Taiga and Tundra," etc.
5. Educational films (programs for schools are adjusted to the curriculum of the detailed subjects)
6. Films with a travel theme, commentaries, e.g., "Alpinistic Expeditions," "Commentaries About the Explorations in The Arctic and Antarctic."

Table 3: Rate of Errors by Continent (%)

Continent	In Warsaw	Beyond Warsaw	Total
Europe (countries & cities with USSR)	3.20	8.52	5.47
Asia (countries & cities without USSR)	13.24	25.93	18.66
North America & South America	11.20	47.50	12.86
Africa	17.12	37.70	25.91
Australia	7.51	22.86	14.01

Recapitulating, it may be judged that the amount of time spent by thirteen-year-olds in watching TV is too much--three to six hours daily. The influence of television viewing on the psychophysical development of the young student cannot yet be precisely answered.

Travel Experience

For the sample of 302 students, it was determined that 107 (35.4%) were designated

Table 4: TV Viewing by Percentage of Students

TV Viewing	Sex	In Warsaw %	Beyond Warsaw %	Total %
31 hours or more	Male	1.16	3.10	1.99
	Female	2.89	0.77	1.99
	Total	4.05	3.87	3.98
21-30 hours	Male	15.61	10.07	13.25
	Female	8.67	14.73	11.25
	Total	24.28	24.80	24.50
11-20 hours	Male	19.08	21.71	20.20
	Female	24.27	21.71	23.18
	Total	43.35	43.42	43.38
10 hours or less	Male	11.56	17.83	14.24
	Female	16.76	10.08	13.90
	Total	28.32	27.91	28.14

as having had travel experience. The proportions are different for schools in Warsaw and those beyond the city (Table 5).

Table 5: Travel Experience

	Schools in Warsaw	Schools beyond Warsaw	Total
% of students who had traveled outside Poland	53.10	11.70	35.40

Further analysis shows that of the 173 students, as many as 92 (53.1%) had traveled outside Poland. The subjects had been in GDR (East Germany) (34), Czechoslovakia (16), USSR (11), Bulgaria (10), Hungary (9), Rumania (6), and Italy (5). These are all European countries and, in the majority, socialistic. In addition to the above mentioned countries, subjects in Warsaw's schools had also traveled to Greece, Austria, Sweden, Belgium, Turkey, West Germany (DDR), and two had traveled to the United States. The greater possibilities of seeing different countries is for students in Warsaw schools than for those from communal schools and small towns beyond Warsaw. For the schools beyond Warsaw, only 11.7% (15 students) had traveled abroad. These students were all located in one primary school; they had visited GDR (7), USSR (4), Czechoslovakia (3), and one had been to Hungary and Bulgaria. None of the subjects from other schools beyond Warsaw had traveled outside of Poland. The remainder of the subjects (46.9%) had not traveled outside of Poland, but had been to different tourist locations in the country.

An analysis of statements by subjects in Warsaw schools shows that they most often went to the following voivodeships: Szczecin and Gdańsk (situated on the Baltic Sea), and the voivodeship of Nowy Sacz which is located in the Carpathian Mountains. Over twenty subjects go to these voivodeships. Central, eastern, and western voivodeships of Poland have not been visited by the subjects.

Students (more than 20) from schools beyond Warsaw go with the greatest frequency to Warsaw since it is the capital city of Poland, and then to the voivodeships of Gdańsk and Nowy Sacz (11-20). The voivodeships of Szczecin and Krakow are also visited often (6-10). Less than 5 students knew the voivodeships of Koszalin, Elblag, Olsztyn, Ciechanów, Płock, Łódź, Czestochowa and Katowice. All of the voivodeships mentioned are characterized by the attractive aspects of their locality. The voivodeships of eastern, western, and southwestern Poland were not mentioned by the subjects. Travel experiences of the subjects were directed either to the mountain regions, places situated at the foot of the mountains, or to the seaside areas.

Although correlations were not examined mathematically, it can be observed that subjects who did not have travel experiences achieved poorer results in the knowledge of place names on a map of the world. Travel and performance are not equivalent in meaning, however, for only in several cases did countries visited by the subjects appear as an item on the test.

Conclusions and Final Postulates

(1) General results of testing of the knowledge of selected oceans and seas, countries, and cities on a world map among a group of subjects born in 1966, are satisfactory. Over 71% of the students tested achieved scores in the range of 41-50 correct answers.

(2) Useful information can be provided for teachers of geography by an analysis of errors. Errors made indicate that the subjects' command of knowledge of several countries and cities calls for more review in class.

(3) All of the information gathered during the testing indicates a clear correlation between performance on the test and the location of the school. The best results were achieved by subjects in the city schools.

(4) Results of the tests are interesting, but the correlations between test scores and TV viewing, as well as travel experience, are difficult to interpret.

(5) The number of errors in the naming of the selected countries and cities on the world map is shocking and difficult to explain. We suggest the continuation of testing of this sort along with the undertaking of studies seeking other correlations, e.g., test results and the index of intellect of subjects and education of the parents.

(6) We suggest that the testing of a large sample (with a minimum of 300 subjects) be synchronized with testing procedures using small groups of 4-5 subjects. The examinations should use a laboratory technique where each subject of the group resolves the test separately in order to obtain detailed information about the perception of the map and reason for the mistakes.

(7) We suggest that, during further

testing, a group of 20-30 subjects who have been identified as doing well in geography could provide a base comparison (control group) for the achievement in the total sample.

(8) We suggest that in this type of testing, maps of various cartographic projections and scales also be used. The consideration of this suggestion would give a possibility of stating which mistakes made by the subjects might result from a lack of information and poor orientation on the map, and which from defects of the map.

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CHAPTER 12

UNION OF SOVIET SOCIALIST REPUBLICS

LUDMILA W. ILYINA
Moscow Institute of Geography

11th March 1948

My dear Professor R. M. Saveland,

Thank you very much indeed for your so very interesting information on the Project. I would endeavour (and trying) to take part in the Project.

Now I have been busy with organization activities with 6th Conference of Geographers of the Siberia and the Far East.

My best wishes to you

Sincerely yours

Ludmila

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CHAPTER 13

EGYPT

HALIM GRACE
Ministry of Education

May I, 1979

Dr. Robert E. Saveland
Professor of Social Sciences.
The University of Georgia
College of Education,
Athens, Georgia,
U.S.A.

Dear Dr. Saveland

I have the honour to receive your letter in 2,1979.

I am pleased to inform you that it is accepted to join you as a country cordinator for a place Vocabulary Research Project which you direct with Lawrence Fahey of the Organization of American States.

We are very interested, as yourself, to determine if thirteen year old students around the world have the facility to locate fifty universal and basic places (countries and cities) on an oval projection outline map of the world.

I will be happy to receive from you, shortly, copies of the test and other relevant information .

Thank you

Very sinberely yours,

Halim Grace
Undersecretary for
prep.& Secondary Education
Ministry of Education,
Falaki Street;
Cairo

CHAPTER 14

NIGERIA

P. OLATUNDE OKUNROTIFA
University of Ibadan, Nigeria

Introduction

Education in Nigeria is no more a private enterprise, but a huge government venture that has witnessed a progressive evolution of government's complete and dynamic intervention and active participation. The country has three main branches in its educational system: the primary schools, the secondary schools and the post-secondary institutions. There are also Teachers' Grade II Colleges and Trade Centres which do not fit exactly into one of these three categories.

At present, geography is one of the subjects taught at the secondary school level. In most of the schools, it is taught as a subject in all classes while in others, it is taught within the framework of social studies during the first two years and later as a single subject in Forms 3 - 5.

In some schools with well-experienced and trained geography teachers a variety of methods involving the use of various audio-visual techniques, role-playing, careful structure of material, field work and problem solving techniques are used. On the whole, in the majority of schools where there is a dearth of suitable geography teachers, the lecture method with limited discussion prevails. While formative and summative tests are common in school geography programs, the School Certificate Geography examination annually conducted for the final year secondary school pupils by the West African Examinations Council (WAEC) has profound influence on curriculum development and has almost single handedly brought about a drastic revision in the geography curriculum in secondary schools.

Post secondary institutions in Nigeria include Technical Colleges, Advanced Teachers' Colleges and the Universities. It takes 3 to 5 years to complete degree requirements in any University. The 13 University Departments of Geography in Nigeria have, over the years, spearheaded the promotion of geographic education in the nation's schools. Apart from training professional geographers, five of these Departments have cooperated with University Departments/Institutes of Education in training geography student teachers working towards Bachelor of Education degrees. An outstanding evidence of the leadership in geographic education from these Universities is the setting up in December 1967 of the High School Geography Committee of the Nigerian Geographical Association. The Committee is charged with the responsibility of keeping under constant review trends in geographic knowledge and of bringing school teachers in touch with the recent developments in the field.

Problem

The purpose of this study is to investigate the performance of thirteen year-old pupils in Nigerian secondary schools in associating the names of highly visible oceans, countries and cities with their correct location on a world outline map. Apart from its interest to psychologists concerned with perception, conservation and retrieval of spatial information, it is envisaged that data from the study will be useful in diagnosing learning capabilities and in evaluating curricular and instructional programs in geography.

The following hypotheses were tested:

1. There will be no significant difference between the performance of the male and female, urban and rural subjects in the World Basic Place Vocabulary (WBPV) test.

2. There will be no significant relationship between subjects' performance in the WBPV test and the status of geography in their schools.

3. There will be no significant relationship between subjects' performance in the WBPV test and their travel experiences.

4. There will be no significant relationship between subjects' performance and the time they devote to viewing television.

5. There will be no significant correlation between subjects' performance in the WBPV test and the scope of learning experiences provided pupils.

Research Design

The place vocabulary skills of the pupils were measured by means of the WBPV test produced by an international team of educational geographers. It is a proficiency test of basic knowledge in which mastery may be demonstrated at the age of thirteen years. The test is concise, short enough to be completed in fifty minutes.

By means of a two-way factorial analysis of variance, pupils' performance was compared on two variables: sex and school environment. Chi-square analyses and point biserial correlation were computed to examine the degree of relationships among variables.

Sample

Three hundred secondary school pupils, 13 years of age, participated in the study. The subjects were drawn from schools in western, eastern and northern Nigeria. One hundred and fifty-one subjects were from urban schools while 149 came from rural schools. There were only 50 female subjects. Urban schools were found to be much larger, better staffed and equipped than their rural counterparts.

Administration

With the aid of geography/social studies teachers in schools, the WBPV test was administered. Subjects spent an average of ten minutes to complete the first part of the instrument dealing with biographic details and some learning experiences relevant to geography. An average of 59 minutes was spent on the WBPV test. All of the teachers completed their own questionnaire after the collection of response sheets from subjects.

The response sheets were scored by research assistants. The total score indicated on any response sheet was the summation of the scores under the subsections on oceans, countries and cities.

Results and Analysis

Subjects' overall performance was quite low as shown in Table 1. The scores range between 0 and 45 and the areas with which 50 percent of them were most familiar included the Atlantic Ocean, Mediterranean Sea, Indian Ocean, Nigeria, U.S.A., U.K., Zaire, S. Africa, Australia, Egypt, London, Cairo, and New York.

In order to test the first hypothesis of this study, groups were compared by

Table 1: Distribution of Scores (N = 300)

Range	f	%
40-50	6	2.0
30-39	22	7.4
20-29	85	28.3
10-19	88	29.3
< 10	99	33.0

using a 2 x 2 factorial analysis of variance with sex and school environment as main effects. The results of the analysis are given in Table 2. The results show that differences due to school environment were significant while those of other variances were not.

The variables involved in the second hypothesis of this study were: status of geography in schools and subjects' level of performance (Table 3). In the third hypothesis the variables were: level of performance and the scope of subjects' travelling experiences (Table 4). For both hypotheses, subjects with scores of 20 and above were considered to have passed the test while those below 20 were failures. The status of geography in schools was determined on the basis of whether it was taught as a subject in the school curriculum or within the framework of social studies. Concerning the scope of travelling experiences, only subjects who had either visited more than three (that is, 4 of the 19) states in Nigeria or travelled outside the country were considered to have wide travel experiences.

For testing each of the two hypotheses, the phi (ϕ) coefficient was computed to show the relationship between the two variables. Then, the simple chi-square was computed from the phi coefficient. In each case the chi-square test established the fact that performance on the WBPV test was significantly related to the status of geography and subjects' scope of travel experiences.

For the fourth hypothesis (H_{O4}), the continuous variable was the array of subjects' scores on the WBPV test and the dichotomous variable was the degree of television viewing which was determined by whether subjects viewed television for at least 5 hours a week (1) or less than 5 hours a week (0). The number 1, therefore, represents the scores of each subject considered to give a fairly reasonable amount of time (5 hours) to television viewing (Y_1) while the cipher 0 represents the scores of those who do not (Y_o). A point

Table 2: Analysis of Variance on WBPV Test Scores

Source of Variation	Sum of Squares	D.F.	Mean Square	F
School Environment	465.01	1	465.01	4.61*
Sex	152.88	1	152.88	1.52(NS)
Interaction	4.68	1	4.68	.05(NS)
Within	7612.24	295	25.81	

*p < .05

biserial correlation computed between the Y_1 and Y_0 scores gave a point biserial correlation, rpb = 0.56, found to be significant at the .01 level using a two-tailed test.

For testing the fifth hypothesis (Ho_5), each subject was scored 1 or 0 on the basis of his/her travel experience and the degree of exposure to such experiences as television viewing and reading of daily newspapers. Thus, the maximum score for any subject in the three areas was 3, the minimum 0. For all subjects, the scores in the three areas were pooled and correlated with scores on the WBPV test and a Pearson product-moment correlation coefficient of .052 was obtained.

Discussion

The test of the hypotheses of the present study has led to two major findings. First, irrespective of sex differences, urban subjects performed significantly better than their counterparts in rural schools. Second, significant relationships were found between subjects' performance on the WBPV test and each of the following variables:

Table 3: Chi-Square Analysis for Ho_2

Performance	Geography as a Subject	Geography within Framework of Social Studies
Passed	100	22
Failed	55	123

$\phi = .50$; $x^2 = 75.00$

Table 4: Chi-Square Analysis for Ho_3

Performance	Wide Travel Experiences	Limited Travel Experiences
Passed	67	49
Failed	39	145

$\phi = .37$; $x^2 = 42.00$

(a) the status of geography in the school curriculum;

(b) subjects' travel experiences;

(c) time devoted by subjects to television viewing;

(d) the scope of learning experiences to which subjects were exposed.

Several reasons could be advanced for the first major finding and some of these could be derived from the second major finding.

In contrast to rural areas, most urban centres in Nigeria are well provided with basic infrastructural amenities in addition to such facilities as cinema houses, television, telephone and regular supply of newspapers. Additionally, the schools there are better staffed as many Nigerian teachers prefer urban schools to rural ones and most of the teachers posted to rural schools ensure that they do return to towns and cities either at the end of the day or at weekends, depending on distance. The fact that these facilities could have teaching potential for geography is confirmed by the significant relationships obtained in the second major finding of this study.

The relative distribution of amenities and facilities in urban and rural areas is bound to influence the nature of children's homes. For instance, it is significant to note that all the twenty-five children discovered in this study to have visited Kenya, the U.S., U.K., Egypt and Australia were from urban centres. It would seem therefore that the intellectual stimulation which most homes in urban areas could readily provide, and the significant relationships existing between the facilities there and children's performance have considerably contributed to the finding obtained in testing the first hypothesis of this study.

The significant relationships obtained in the study are not surprising. The positive relationship obtained between performance in the WBPV test and the status of geography in school seems to confirm the observation made by social studies teachers that the test was rather too advanced for their pupils. It is very likely that place vocabulary skills could be better taught in geography than in social studies. Furthermore, the results obtained in the third, fourth and fifth hypotheses justify the suggestion that travel experience, television viewing and the reading of newspapers could singly and collectively contribute to the knowledge of places.

Conclusion

The present study has two important implications for geographic education in Nigeria.

First, the scope of the learning experiences provided the geography pupil is an important determinant of his performance in the subject. On account of the fact that the overall performance of both urban and rural children on the WBPV test was rather low, Nigerian schools, irrespective of their location, would need to be better staffed. Probably the current government's efforts towards rural development is a step in the right direction. It is hoped that this would make the rural areas attractive and thereby help in reversing the present flow to urban areas. Additionally, teacher training programs would have to be stepped up to produce better educated and more imaginative teachers capable of not only diversifying classroom teaching by the use of various audio-visual techniques but also leading pupils to visualize places, peoples, activities and ways of life other than their own.

The second implication of the study is that the basic information/concepts in geography might not be adequately taught within the framework of social studies now replacing geography in the school curriculum. It is doubtful whether social studies could cover the content which a geographer might hope to cover in a subject-based curriculum given the same time. It would seem from this study that it is vital to ensure that geographers are included in both the planning and the execution stages of a social studies course if the whittling away of the essential geographical content of the curriculum is to be guarded against. Clearly, the involvement of the geographer, and other subject-specialists for that matter, will ensure that the essential features of their fields of study do not disappear.

CHAPTER 15

INDIA

A. NARAYANAN
T.V.S. Higher Secondary School
T.V.S Nagar, Madurai

Place of Geography in School Curriculum. Geography, we can say, is not given a proper and due place in the Indian school curriculum. Before actually going into the subject, it is essential to have an idea of education in India.

According to the Indian Constitution, education is a state subject, and hence there are as many syllabi as there are states. Apart from this, the government of India has its own syllabi and schools. Of nearly 21 types of syllabi in use in India, in seven states geography is taught as a separate subject, and in six of the seven states, it is combined with history for examination purposes--the paper being "History and Geography," with a combined pass minimum of 35%. The student aiming at just the minimum can omit geography and get through.

Secondly, the total hours of teaching allotted to geography in these states is 1½ hours per week, roughly 60 hours per year. When allowances are made for examinations, holidays, etc., only about 45 hours are devoted to the actual teaching of geography in these states. In nearly twelve states, geography is not a separate subject but forms a part of social studies or social sciences, along with history, civics, politics, etc. The identity of geography is completely missing in those cases.

It is in the central syllabus that geography finds a proper place. The subject is separately dealt with in a proper manner and the number of teaching hours is nearly 140 per year. The syllabus deals with all of the aspects, such as physical, economic, regional, commercial, and practical aspects of the subject. The state syllabi concentrate more on regional and economic geography.

Teachers. There are very few qualified geography teachers because many states have social sciences. Even in states where geography is a separate subject, because of the smaller number of teaching hours, it is combined with history for classroom teaching. Mostly, teachers qualified in the field of history are teaching geography also. For example, for nearly 2500 schools in Tamil Nadu, there are only 120 qualified teachers of geography, of whom nearly 68 have qualified in history or literature in thier post graduate work and have been promoted to the post graduate cadre. Hence, in the graduate cadre, there are just fifty-two teachers qualified in geography alone for the roughly 2500 schools. The same is true in practically every state.

The Place-Vocabulary Project. The place-vocabulary test was sent to nearly 250 schools in fourteen states of different languages and syllabi, and to seventeen schools having a central syllabus. This number includes seven schools in Delhi and 10 central schools in various parts of India. These 267 schools do not include any in the state of Bihar.

Of the 267 schools, reports were received from only 185. The remaining eighty-two schools did not submit reports in time to be included in this report. Festivals, sudden political changes, etc., may account for the delay. Approximately 5000 students were engaged in the project. Indian thirteen-year-old students tested were in standard (or grade) 8 wherein they have not completed the study of world regional geography. These students can be placed in three categories of schools:

A - schools where geography is a separate subject

B - schools where geography is taught as a separate subject, but is combined with history for examination purposes

C - schools where geography is a part of social studies

See Table 1 for a breakdown of correct answers by type of school, and Table 2 for an analysis by locality of type of school, rural or urban.

Table 1: Correct Answers by School Category

Category	Total No. Tested	Correct Answers					
		All	41-50	31-40	21-30	11-20	10 or less
A	625	6	310	300	9		
B	1818	2	240	648	608	218	102
C	2395		308	460	1042	362	223

Educational Aids. Except for the seven schools in Delhi, other schools have no educational television. Even in Delhi, the use of television for education in 8th grade geography is scheduled for only three hours per month, of which nearly 10 hours during the year conflicts with other activities.

(Editor's Note: Correlations on hours of television viewing and an item analysis for most-known places remain to be made. Data is enroute to the editor by surface mail.)

Educational radio broadcasts for approximately twenty hours per year in 8th grade geography. Nearly 2200 students studying geography in school categories B and C reported that they had never heard the broadcasts which teach geography.

The travel experience of Indian students is not a factor in their learning geographic places and names. Nearly 280 students reported that they had never traveled anywhere beyond their village nor had they ever seen a train. An airport is a dream to nearly 870 students. The greatest distance traveled by most had been to their state capital. Only eight students had traveled beyond the state in which they live. Knowledge of places in Asia, even in India, was found in only about 32% of the rural students, and 60% of urban students.

Table 2: Analysis by Locality of School

Urban Schools Category	Total No. Tested	Correct Answers					
		All	41-50	31-40	21-30	11-20	10 or less
A	625	6	310	300	9		
B	720	2	180	360	160	18	
C	1042		180	240	422	146	54
Rural Schools Category	Total No. Tested		Correct Answers				
		All	41-50	31-40	21-30	11-20	10 or less
B	1098		60	288	448	200	102
C	1353		128	220	620	202	183

Conclusions. As noted earlier, the teaching of geography is not given much attention in India. Due to administrative decisions, the teaching of mathematics, the mother tongue, and English receive the greatest amount of emphasis.

The position of geography in the curriculum of Indian schools requires radical improvement and change. Ambitious teachers who wish to teach something new or employ innovative techniques are not

encouraged to do so and are compelled to complete the syllabus in a prescribed time because the subject is not thought to be of as great importance as other subjects. It is taught by non-geographers who only use the textbook as a guide; map study is neglected.

The syllabi in geography must undergo radical change; modern aspects and ideas must be incorporated. Teachers of the subject should be trained in the field and qualified to teach it at a particular level. The subject should be given its due place in the curriculum.

CHAPTER 16

JAPAN

T. SEKIGUTI
University of Tsukuba

A total of 1,750 thirteen-year-old students were tested in Japan. Of these, 990 attended schools in and around Tokyo and 760 were in schools in other locations. Complete information and analysis had not been received from Japan at the time of assembling the country reports, but the following preliminary information is presented pending conclusion of the Japan report.

Table 1 indicates the range of scores and mean scores for the students tested.

As reported in other countries, Japan also noticed a remarkable difference in the scores of boys and girls. Table 2 shows the range of scores (%) while Table 3 gives the mean scores for boys and girls. Both tables refer to students in schools in Tokyo and its suburbs only.

No correlations have yet been established for television viewing and travel experience and test scores. Table 4 shows the number of hours of weekly television viewing by students in one school only.

Table 5 indicates those students from Tokyo, suburban Tokyo, and Utsnomiya schools who have traveled abroad.

As further and more complete information, interpretation and analysis is received, it will be added as an addendum to this report from Japan.

Table 1: Range of Scores, Mean Scores

	0-10 %	11-20 %	21-30 %	31-40 %	41-50 %	Mean	No. of Students
Downtown Tokyo	35	43	14	7	2	15.4	282
Inner Suburb	31	42	17	9	1	16.4	362
Outer Suburb	27	34	21	10	8	19.1	346
Tokyo Mean	30.5	39.4	18.5	8.6	3.9	17.0	990
Utsnomiya *	8.6	30.2	29.4	20.1	11.3	24.9	371
Asahikawa **	22.6	37.5	23.1	8.7	8.0	19.8	389
National	20.6	35.7	23.7	12.5	7.7	20.6	1750

* Local district, center city of 300,000 population; ** Local district, center city in Hokkaido

Table 2: Range of Scores of Boys, Girls

Range of Scores	Boys	Girls	Total
0-10	21.9	41.6	30.5
11-20	39.7	37.9	39.4
21-30	19.7	14.5	18.5
31-40	12.4	3.9	8.6
41-50	6.3	0.9	3.9

Table 3: Mean Scores of Boys, Girls

	Boys	Girls	Total
Downtown Tokyo	17.2	13.1	15.1
Inner Suburb	18.9	13.6	16.4
Outer Suburb	21.4	14.8	19.1
Total	19.5	13.8	17.0

Table 4: TV Viewing Hours/Week (1 school only)

Hours	No. of Students
2-5	16
6-10	84
11-15	76
16-20	38
21-25	31
26-30	8
31-35	1
36-40	2
41-45	1

Table 5: Travel Experience

	Number of Students	%
Downtown Tokyo	7	2.5
Inner Suburb	10	3.1
Outer Suburb	28	8.8
Utsnomiya	5	1.3

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CHAPTER 17

NEW ZEALAND

COLIN L. KNIGHT [1]
Christchurch

Geographic literacy has become a necessity for effective citizenship in an increasingly interdependent world. Empathy with other cultures, a basic objective of global education, begins with knowledge of the location of the countries in which people live. The need to teach 'location' as a specific objective in social studies courses is revealed in this study of the ability of thirteen-year-old New Zealand students to associate the names of countries, cities and oceans with their location on a world map. Television viewing was found to have a negative instead of beneficial influence on geographic literacy. There appeared to be no substitute for the classroom as the medium for nurturing basic place vocabulary.

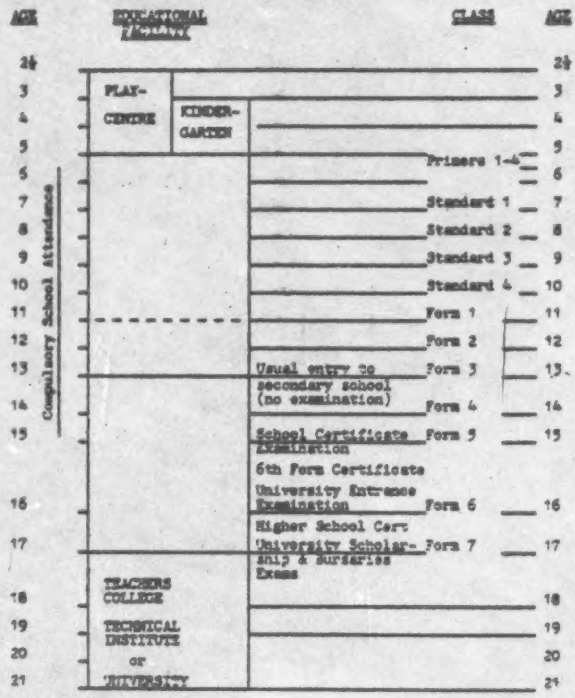
Education in New Zealand

The strongly egalitarian temper of New Zealand society, a product of historical, geographical, and economic factors, is reflected in education by the policy of making schooling at all levels freely available. In few other countries is there closer approximation to equality of educational opportunity, and few countries have a larger proportion of their populations in schools, colleges and universities. At the age of five years a child may enter, and at six years must attend, a primary school. The top two years of elementary education, forms 1 and 2, may be taken at an intermediate, or form 1-7, school (Figure 1).

Upon completing instruction in form 2, usually after eight years of school attendance, a child enters form 3 of a secondary school. All children are required to attend school until they reach the age of fifteen years, but free secondary education is available until the age of nineteen years. The Department of Education determines educational policy, sees that standards are maintained throughout the country on an equitable basis, and is responsible for the curricula in state primary and secondary schools. All schools are visited regularly by inspectors of the department, who give assistance and guidance to teachers.

The curriculum of the primary and intermediate schools, as set out in the syllabuses of instruction, covers character training, oral and written language (including reading and handwriting), mathematics, social studies, art and crafts, science, physical education, health education, music and, for some children in form 2, French. At forms 1 and 2 woodwork and

Figure 1:
Educational Facilities Provided for the Typical New Zealand Child



[1] Senior Inspector of Secondary Schools

metalwork instruction is given to boys, and girls are taught homecraft and sewing. During the first two years of secondary school, pupils study English, social studies, general science, core mathematics, physical education, music and art and crafts. They can also take a number of optional subjects. Some specialization is introduced in the third year, when students can take a wide range of subjects. At the end of this year they sit the national School Certificate examination, which is widely regarded as an employment qualification. It also permits entry to the sixth form where students study for the University Entrance examination. Students who intend to go to a university usually spend a further year in the seventh form studying for the University Bursaries and Scholarship examinations which entitle them to monetary assistance with university expenses.

Geography in the School Curriculum

Geography, as a separate subject, is not taught until the third year of secondary schooling when students are approximately fifteen years of age. At primary school and for the first two years of high school, geographic ideas are incorporated into an integrated social studies course. This syllabus is based on an "expanding universe" model with children learning about their own family and neighborhood first and then about families in more distant regions. Place vocabulary tends to be taught mainly through "morning talks" about current events.

At the age of eleven (form 1), the concept of 'culture' is introduced and the location of different cultures on a world map becomes important. Four interdisciplinary concepts are used as a basis for the form 1 to 4 (age eleven to thirteen) social studies syllabus:

1. Cultural differences
2. Interaction
3. Social control
4. Social change

This is a national syllabus which all teachers are required to follow. They are given a choice of case study cultures from which to develop these concepts. In the third year of high school, geography becomes a separate subject option. It is a popular course chosen by over half of the students in form 5. Many of them continue the subject into forms 6 and 7. The secondary school geography syllabuses are based on a regional paradigm with a major emphasis on place geography, particularly in form 5.

Geography is included in the teacher education programs of primary school teachers and for most secondary school teachers who take social studies courses. Many take the subject as a part of their university degree. It has traditionally been the strongest of the social sciences in New Zealand universities. Consequently, place location is well taught in social studies classrooms.

The Place Vocabulary Research Project

The aim of the project is to evaluate the ability of thirteen-year-old New Zealand students to associate the names of a sample of fifty oceans, countries, and cities with their correct locations on a world outline map. The instrument used in data collection, "The World Place Vocabulary Test," is described in detail by Saveland in the introduction to these research studies. A criticism of the instrument by New Zealanders was the sparsity of countries, cities and oceans from the Pacific area. They saw good reasons for including in the test at least the Pacific Ocean, Malaysia and New Zealand.

The Survey Sample

The subjects were 108 thirteen year-old New Zealand high school students (49 males and 59 females). Although they were not randomly selected, the sample was chosen by the head of the social studies department as a representative selection of students in terms of ability, sex and socioeconomic background. The school from which the sample was chosen is the largest in New Zealand with an enrollment of over 2000 students. It is located in a suburban area with parents representative of a crosssection of South Island, New Zealand society. The absence of Maori or Pacific Island students limits the extent to which the sample can be regarded as representative of typical New Zealand students.

Data Collection

The test, requiring students to associate the names of fifty oceans, cities and countries with their correct location on an outline map of the world, was administered to the subjects of three groups in their normal social studies classrooms. In addition, they filled in a questionnaire supplying data on age, amount of television watched, amount of travel experience and whether or not they had studied geography.

Data Analysis. Frequency counts, percentage scores, the mean and standard deviation were calculated for all subjects on all items. A summary is presented in

Figure 2: Frequency Distribution of Scores

Score	No. of Subjects	Percent of Subjects	Mean	S.D.	Range
< 10	4	3.7			
11-20	17	15.7			
21-30	18	17.0	32.3	17.7	5.50
31-40	37	34.3			
41-50	32	29.6			

Number of Students, 108

Figure 2. The data shows that scores were skewed toward the upper end of the scale. Five students associated all fifty features with their correct locations, and almost one-third of the sample identified 80 percent of the items correctly.

Correlation between Proximity and Place Names

An analysis of the data in terms of places best known by students is presented in Figure 3 with items ranked according to the number of errors made. While proximity was obviously the major factor affecting the answers to the three best known places, Australia, Sydney and the Arctic Ocean, there was no outward progression in the influence of this factor. The USSR, ranked in fourth place, was better known than countries much nearer such as Indonesia (thirty-eighth best known), Chile or Peru. Political affiliations appeared to be less significant than expected in affecting students' knowledge of places. Commonwealth countries were not identified more readily than others while the Mother Country, the United Kingdom, was incorrectly named by almost a quarter of students. Africa, the Middle East and Latin America were the least known areas, while the USSR, North America, China and Japan were the best known.

Figure 3: Items Ranked According to Number of Errors per Item[1]

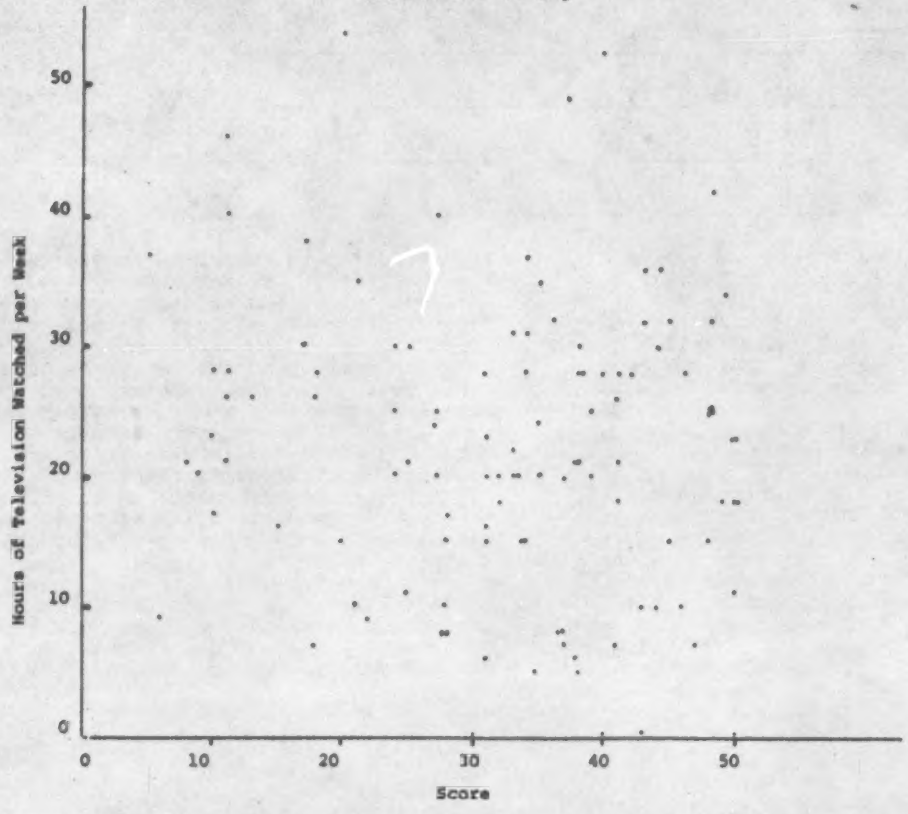
Number of Errors		Number of Errors	
0	Australia	35	Swedan
2	Sydney	35	Italy
3	Arctic Ocean	40	Spain
8	USSR	42	Egypt
12	New York	43	Brazil
12	Moscow	45	Philippines
15	USA	47	Poland
15	London	48	Cairo
16	Canada	49	Calcutta
17	China	58	Cuba
17	Mexico City	58	Rio de Janeiro
18	France	59	Chile
18	Japan	59	Indonesia
19	Paris	60	Buenos Aires
21	Peking	61	Yugoslavia
21	Tokyo	62	Argentina
21	Caribbean Sea	65	Saudi Arabia
23	United Kingdom	67	Algeria
26	Mediterranean	67	Turkey
26	South Africa	69	Iran
27	Mexico	72	Peru
29	Atlantic Ocean	74	Nigeria
29	Indian Ocean	77	Ethiopia
30	Johannesburg	80	Colombia
31	India	81	Zaire

[1] 1909 errors; $\bar{x}$ error 38.18 per item; $\bar{x}$ error 17.3 per subject

Correlation Between Television Viewing and Place Knowledge

Data on television viewing by subjects is presented in Figure 4, which shows the correlation between scores on the World Citizens Basic Place Vocabulary Test and amount of time spent watching television. The number of hours spent per week watching television ranged from nil to 54 hours; the mean was 21.6 hours and the standard deviation 10.8 hours. Only six subjects watched television for more than 40 hours per week while 20 watched for 10 hours or less. A Pearson product-moment correlation of -0.10 was calculated. This supported the impression from Figure 4 that knowledge of place geography decreases as the amount of television viewing increases.

Figure 4: Relationship Between World Place Vocabulary Knowledge and Television Viewing



Correlation Between Travel Experience and Place Knowledge

The children in the sample had a wide range of travel experience (Figure 5). Thirty percent of them had been overseas to neighboring countries such as Australia and Fiji or to more distant places such as England, USA, Spain and Israel. There appeared to be a positive correlation between amount of travel and place knowledge; twenty-two of the students who had been overseas scored above the median while fourteen percent with overseas experience scored below the median. However, of the ten best scorers, only three had been overseas and three had never been out of the South Island. Conversely, two students who had been as far afield as England and Fiji identified only eleven places correctly and were among the lowest ten on the test.

Correlation Between the School Curriculum and Place Knowledge

It appears significant that the top ranked items (Figure 3) identified correctly by the majority of students were all topics in the social studies curriculum in the year in which the test was ad-

ministered or in the year prior to it. In form 3 (thirteen year-olds), the social studies syllabus includes studies of the USSR, USA, China and Japan. In form 2, the topics studied include Australia, New York, London and Canada. There is a high positive correlation between the places best known on the test and the topics studied at school. Similarly, those topics least known by students tend to be those not studied at school.

Figure 5: Relationship Between Travel Experience and World Place Vocabulary Knowledge

Travel Experience	Scores (Correct Answers)				
	0-10	11-20	21-30	31-40	41-50
New Zealand only	6	12	14	20	20
Other South Pacific areas	1		1	8	9
U.S.A., Canada			1	3	
England, Europe		2	2	4	3
Asia, Africa				2	

Conclusions

New Zealand high school students, as represented by this sample, tend to be well informed about the location of places in the world, with the exception of countries in Africa and Latin America. This knowledge is partly attributable to the large amount of travel done by New Zealanders. The relative affluence of the people and their feeling of isolation from the major population centers both contribute to this urge to travel.

Television viewing did not contribute significantly to the place knowledge of New Zealanders, in fact those who watched the most television tended to know the least about world place geography.

The most important factor related to world place knowledge appeared to be the school curriculum. Those countries which were taught at school were best known. If a basic place vocabulary is considered important for citizenship on planet Earth, then cognizance must be taken of this objective in planning social studies and geography curricula. The results of this study indicate that place geography is not learned from television or even from travel alone. It must be taught in the same way that other types of vocabulary are taught. Geographic literacy in a global age is too important to be left to chance.

CHAPTER 18

IRAQ

JACQUELINE AL-AZAWI
International School, Baghdad

Overview of the School

The International Children's Center of Baghdad, Iraq, is a private primary and middle school governed by a Board of Directors elected by the parents and managed by a principal, vice principal and department heads. The school follows the American (USA) system of education and most textbooks are published in the United States.

From grades one through six, the Silver Burdett series of social studies books are used. In grades seven and eight, these have been replaced by cultural geography project work, and in grade 9 the World Geography by Bradley is used. One lesson of forty minutes per day is scheduled throughout the grades except in grades one through four where lesson time is left to the discretion of the teacher.

Project and library work are stressed throughout the grades. Evaluation of instruction is done almost entirely on the basis of inspection by the school principal and by review of student grades. At present, a revision of the social studies curriculum is underway in grades five through nine.

Analysis of Data

The sample is highly representative of an international school since there are 14 nationalities represented of a possible 27. This is in no way comparable to a national study wherein only one nationality with a common school background would be represented. The present sample, however, represents subjects who are unusually widely traveled and travel, it appears, aids greatly in knowledge of place names. It is also true that these students have had many geography courses.

Scores ranged from 2 to 50 correct answers (see Table 1). A wide range of scores is to be expected with the diversity of student backgrounds. It was to be noted, however, that 22 of 27 subjects scored 28 or more correct answers. Boys scored significantly higher than girls (see Table 2).

Table 1: Distribution of Scores

Range of Scores (Correct Answers)	Percentage
41-50	48.1
31-40	25.9
21-30	7.4
11-20	7.4
0-10	11.2

Table 2: % Correct Answers by Sex

Group	Mean
Boys	39.87
Girls	29.83
Total	35.41

Observed Correlations

Television Viewing. Correlation of place name knowledge to television viewing appears to be nil (see Table 3). Students were unable to accurately estimate the amount of time they watched television weekly. Baghdad telecasting amounts to approximately 50 to 60 hours per week, usually in Arabic. Few students understand enough Arabic to enjoy television. It is quite normal for the students to watch "Little House on the Prairie" every Friday morning and perhaps the English-language films which are telecast three times a week. Other films of interest, such as Jacques Cousteau's underwater series, may or may not be translated into English. Approximately 15 minutes of news is telecast in English every night, but

it is doubtful if students watch it.

Students listed viewing time as being between 1 and 140 hours per week. Six students listed 14 hours; this is assumed to be more nearly accurate, judging from conversations with students on the subject.

Table 3: Television Viewing

Range of Scores	TV Viewing/Week
41-50	8.15 hours
31-40	10.00 hours
21-30	6.00 hours
11-20	5.50 hours
0-10	13.33 hours

Travel Experience. Travel experiences are more likely to have aided in learning place names than any other factor in this sudy, but proximity is also a factor. It is to be noted that Egypt and Saudi Arabia were the countries most known (Table 4).

Table 4: Ranked Item Analysis

9 Most Correct	9 Least Correct
Egypt	Ethiopia
Saudi Arabia	Nigeria
USSR	Buenos Aires
Arctic Ocean	Cuba
Australia	Zaire
Indian Ocean	Rio de Janeiro
Mediterranean Sea	Peru
India	Johannesburg
Moscow	Colombia

Community Factors. It is not certain what part community factors played in this study. All students are foreign nationals and are not integrated into the local society. Inside the country, they travel to local sites of antiquity but usually take their vacations abroad.

Geography in the School Program. Geography plays a strong part in this school's program but it is supposed that knowledge of place names was learned before the student entered the school. Map skills are not strongly stressed at present and students rarely stay in this school throughout the entire program. The average length of stay is, in fact, only two years.

Commentary and Conclusions

This activity enlightened the school faculty as to the situation of the students' knowledge of geography. It was also learned that the students did not know how to fill in forms.

The forms supplied for the tests did not adequately serve the purpose of the study. All but one of the students were non-native English speakers and some words had to be explained to them. (It was assumed that in a national study, the questionnaire would be translated into the appropriate language.)

At the top of the questionnaire the word "student" was misunderstood by some; they merely wrote, "yes." "Class" to some meant "grade." Some students were not familiar with "male" and "female." Four students did not write their birthdates. The question about the hours of television viewing brought this response from some, "Do you mean here in Iraq?"

The question concerning the most distant place traveled caused great confusion. Some students could not conceive of distance from Iraq. They thought of distance from their home countries. One student could not understand the question and when asked if he had ever traveled anywhere other than from his home country of Turkey to Iraq, he said no. Later he turned in the paper with this comment: "I did not want to write Turkey, so I just wrote 450 kilometers." (The Turkish-Iraqi frontier is more than 450 kilometers from Baghdad.) One student wrote "Finland or Spain," not knowing which was further. Another wrote, "Iraqi Museum."

An interesting aspect of perception is brought out here with regard to being in Baghdad but thinking in terms of the home country. Subjects wanted to tell how much television they watched in their home countries and had great difficulty in thinking how far they had been from Baghdad, rather than from their home countries. At the same time, their test scores show that most of them know where places are. Expatriots may be, and probably often are, disoriented spatially even after many years of foreign residence in one location.

CHAPTER 19

SUMMARY AND CONCLUSIONS

ROBERT N. SAVELAND

This study set out to find if thirteen-year-old students in different parts of the world are capable of spontaneous retrieval of 50 universal and basic place names, and if they could associate the correct locations with numerals on a small-scale outline map of the world based on an oval projection. The country reports demonstrate that there is a wide range of pupil performance on the World Basic Place Vocabulary Test, not only among countries, but also within a country.

Findings

While in no sense a competition, this study must inevitably look at the range of scores from the various countries to observe any meaningful patterns and to attempt to interpret and understand whatever correlations exist. Table 1 shows the Range of Scores for the participating countries.

The highest level of achievement was reported by Poland. The fact that nearly three-fourths of the students scored higher than 80% correct responses indicates a realm of possibility for thirteen-year-old students. Iraq, New Zealand and Norway also had high scores, but in each of these instances the sample population was small in size and not representative of an entire country.

Table 1: Range of Scores

Country	0-10	11-20	21-30	31-40	41-50	Mean Score
Canada	9.5	21.7	27.5	23.8	17.5	26.4
U.S.A.	15.0	26.0	23.0	21.0	14.0	24.7
Mexico	14.1	30.8	29.7	18.2	7.2	23.3
Venezuela	30.3	25.7	24.2	13.3	6.5	19.5
Brazil	42.4	24.8	13.0	13.4	6.4	13.7
Norway	9.0	13.2	14.6	20.2	43.1	33.5
Ireland	12.0	12.9	29.7	26.0	19.4	28.3
Netherlands	11.5	15.3	19.1	24.7	29.5	30.3
Poland	.99	1.3	10.3	15.6	71.8	
Nigeria	33.0	29.3	28.3	7.4	2.0	16.1
India	6.7	12.0	34.3	29.1	17.9	
Japan	20.6	35.7	23.7	12.5	7.7	20.6
New Zealand *	3.7	15.7	17.0	34.3	29.6	32.3
International School, Iraq *	11.1	7.4	7.4	25.9	48.2	35.4

* limited sample

The scores from Ireland and the Netherlands closely approximate each other. Although they can be considered European neighbors, they still represent different language groups and genetic backgrounds.

Canada and the United States have patterns like those of western Europe but at somewhat lower levels of performance. Those familiar with the status of geography in the schools of these two countries might expect Canadian students to do better than their neighbors to the south, and they did. In both Canada and the United States, great regional variations were demonstrated.

Nigeria and India, both having school systems descended from a British model, had good statistical studies but their scores differed considerably. India, in keeping with its large population, tested over 5,000 students. Note that the range of scores from India approaches that of a Bell curve of normal distribution. The same is true for Canada. In Nigeria it was demonstrated that low performance correlated with students who were not taking geography as a separate subject.

Countries referred to as "developing nations" turned in the largest proportion of students in the low range of scores. Notice the similarity in scores from the Latin American countries. That the scores of Brazil, Mexico, and Venezuela should be so similar lends a certain credence to the test results.

Correlations

Item Analysis. Not all countries sent in an item analysis on the test, but from those received some interesting patterns can be noted. The oceans and seas were much better known than the countries or the cities. The Atlantic Ocean and the Arctic Ocean were the least missed. This may be due in part to the fact that they were among the first three items on the test and the numbers were clearly visible. Many students had difficulty with the Caribbean Sea, including students in Mexico.

In general, cities were better known than countries and many students obviously do not associate a city name with a country. As may be expected, New York and Moscow were among the best know cities. None of the students in Warsaw, Poand, missed the location of Moscow. Calcutta and Johannesburg were the most missed cities.

Among the countries, the USSR and the USA were the best known and the USSR often had more correct responses than the USA. A very surprising result was the number of students who could not correctly identify their own country. In both Brazil and Canada this was true for 8% of the students and both of these countries figure prominently on the map. All the students in New Zealand correctly identified Australia but one-fourth of them missed the United Kingdom. 12.3% of the students in Ireland failed to correctly identify the United Kingdom.

Iran, which has figured prominently in the news, was not well known. The correct responses generally ranged from 12% to 25% although 30% of the students in Mexico taking geography as a separate subject marked it correctly as did 81% of the students in Warsaw. The countries of the Middle East and Africa were the least known and Zaire was the country with the greatest number of errors. This might be attributed in part to books and maps still in use which label this country as the Congo.

The research demonstrates that proximity is a factor in the recognition of countries, but this factor may be overridden by others, such as shape, site (peninsulas and islands are more easily recognized), and visibility (football, soccer, and auto races were cited).

Male-Female. One of the more intriguing findings of this study is the generally higher scores of boys over girls on this test. The International School in Iraq had a ten point differential in the mean scores (male 39.87, female 29.83), and this would be statistically significant except for the small size of the sample. The USA, Canada, Netherlands, Brazil and Mexico all reported significant differences with boys scoring higher than girls. In Ireland, boys scored generally higher than girls on the Intermediate Certificate Geography Examination, and the mean scores on the World Basic Place Vocabulary test, when computed by school types, also showed a higher score for boys in each instance. In Poland and Nigeria significant differences between the sexes did not occur.

By the age of thirteen, a considerable amount of cultural conditioning has taken place. This raises the question as to whether or not an interest in maps and mapping is a masculine trait which is inate, or culturally acquired.

TV Viewing. A remarkable amount of similarity was evident in the country reports of television viewing. The average number of hours that students watch television per week was surprisingly consis-

tent. Poland, a country which had high test scores, reported that 43% of the students watched up to 20 hours of television weekly. The investigators verified this by having students check off from a list the programs they watched. They found that the check lists conformed with the original report when taking the test. In general the number of hours of television watched by students in the various countries averaged about 17 hours, except for India, which reported little television viewing and Iraq which was a special case of an International School where much of the television programming was not in the language of the students.

Most countries reported no significant correlation between television viewing and scores on the World Basic Place Vocabulary Test. Nigeria reported a significant correlation and New Zealand reported that those who watched the most television tended to know the least about world place geography. Ireland indicated that the lower income students appeared to have the highest viewing hours and suggested that this would possibly correlate with less time spent in studying. Mexico found that the middle group, in terms of the number of hours watched, got the higher test scores.

What the figures do not tell us is the nature of the programs watched. If students were watching educational programs such as Odyssey, we might expect higher correlations on test scores. Obviously, programs such as Gunsmoke contribute little to a knowledge of world places. The fact that so many students fail to locate a country like Iran which is so much in the news seems to indicate that maps are used too infrequently on television newscasts. A study could be made of this.

Travel Experience. Many countries reported a positive correlation between extent of travel and test results. The parameters for defining the groups of students who were most traveled and least traveled was left to the country coordinators. Students were often grouped according to those who had not traveled beyond their local area, those who had visited neighboring states or provinces, and those who had gone abroad to other countries. In the Netherlands, the breakdown was made into six groupings based on distance in kilometers of the farthest place visited. A considerable number of Dutch students had not been further than 400 km. and it was noted that they would have to travel 800 km. or more to experience greatly different landscapes or climates. No correlation pattern was found with travel experiences in the Netherlands study. However, both Ireland and Norway reported a surprising number of students who had traveled abroad and a significant correlation with test results. In Poland, 53% of students in the urban areas had traveled beyond the borders of the country. Although not examined mathematically, it was observed that Polish students who had little travel experience also had poor test results, but these students also were mainly from rural areas. Mexico and India reported that their students generally lacked travel experiences.

In general, students who live in urban areas close to transportation centers would be expected to have greater travel opportunities than those in the hinterland. Travel experiences may also be linked with middle and upper income groups who can afford to travel, except for children of migrant laborers and displaced persons. Inasmuch as the test covered a great many countries which would not be actually visited by the student, the travel experience in itself could only contribute to a correct response for those countries actually visited. Students may also travel vicariously through the medium of a book or film. No attempt was made to measure this factor.

Implications

In the overall analysis we must seek the answer to why some students performed better than others on the test. Recognition and long-term memory seem to be vital elements. For the most part, modern educators have denigrated the role of what is termed "rote memorization" in the learning process. Yet, memory is vital to learning and acquiring knowledge. In his discussion of the theory of memory, Tompkins points out the greatest source of variability among people in remembering results from differences in the intention to memorize (Tompkins, 1970, p. 64). To pursue this further, we could conclude that students do not choose to memorize place names because they are not perceptually aware of the significance of doing so.

The entire information receiving, coding, storage and retrieval process is involved in the acquisition of a place vocabulary. It is Tompkins' belief that human beings constantly maximize the ability to remember by organizing experiences into categories already known and thus reducing the amount of new information to be remembered. This would suggest that a structured, developmental approach to knowledge of places would be useful, and that continents and culture areas can constitute a framework for organizing spatial information.

For the most part, geographic educators and the general public should lament the poor performance of so many students. The test is not difficult and the fifty places should be known by most thirteen-year-olds. There is room for great improvement in the process of teaching and learning geography. As several country reports suggest, this may best be accomplished by teaching geography as a separate subject or by devoting more time to geography instruction.

Conclusions

This research has called attention to a neglected area of geographic education. It raises many questions in need of further investigation. The following recommendations are made:

1. Investigators in other countries may apply the World Basic Place Vocabulary Test and compare findings.

2. In those countries or instances of exceptional student performance on the test, in-depth studies should be made to analyze the factors contributing to these results.

3. A battery of tests should be devised to further test place vocabularies including

   a. Natural features (mountains, rivers)

   b. Students of different ages (especially 5, 9, and 17 years of age)

4. The tests should be readministered in subsequent years to determine changes through time.

5. More studies should be made of recognition and the role of memory in the teaching and learning of geography.

Sufficient theory and practical guidelines now make criterion-referenced testing possible. Formative tests of this nature are especially useful in diagnosing learning capabilities and in evaluating curricular and instructional programs with a view to enabling all students to reach mastery (Bloom, 1980). In effect, this test may help to establish a minimum world standard, since a basic place vocabulary would seem to be a requirement for citizenship on Planet Earth. With the improvement of geographic literacy in all countries, this standard could be raised.

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CHAPTER 21

APPENDIX

Appendix 1

WORLD CITIZENS BASIC PLACE VOCABULARY TEST

School_____ _____ Student_____

Class_____ _____ Male____ Female____

Date _____ Birthdate_____

1. About how many hours do you watch television in a week? _____

2. Is geography one of the courses you are now studying? Yes_____ No _____

3. What is the most distant place from here which you have visited?

_____

Write the numbers from the map in front of the correct name below.

Oceans and Seas (numbers 1 - 5)

____ Arctic Ocean
____ Atlantic Ocean
____ Caribbean Sea
____ Indian Ocean
____ Mediterranean Sea

Countries (numbers 6 - 37)

____ Algeria
____ Argentina
____ Australia
____ Brazil
____ Canada
____ Chile
____ China
____ Colombia
____ Cuba
____ Egypt
____ Ethiopia
____ France
____ India
____ Indonesia
____ Iran
____ Italy
____ Japan
____ Mexico
____ Nigeria
____ Peru
____ Philippines
____ Poland
____ Saudia Arabia
____ South Africa
____ Spain
____ Sweden
____ Turkey
____ United Kingdom
____ USSR (Soviet Union)
____ United States
____ Yugoslavia
____ Zaire

Cities (numbers 38-50)

____ Buenos Aires
____ Cairo
____ Calcutta
____ Johannesburg
____ London
____ Mexico City
____ Moscow
____ New York
____ Paris
____ Peking
____ Rio de Janeiro
____ Sydney
____ Tokyo

Appendix 2

Appendix 3

PLACE VOCABULARY PROJECT

STUDENTS SCORES

Place _____

Country _____

School _____

Date _____

Record the students score in order from the highest to the lowest completing the accompanying information. Record only the scores of students born in 1966.

Number Correct	Male/ Female	Birthdate	Hours TV	Geography Yes	Geography No	Number Correct	Male/ Female	Birthdate	Hours TV	Geography Yes	Geography No

Appendix 4

PLACE VOCABULARY PROJECT

ITEM ANALYSIS

Place _____

Country _____

School _____

Date _____

Total number of students tested _____.

Record the number of errors for each question:

Oceans and Sea (numbers 1 - 5)

___ Arctic Ocean
___ Atlantic Ocean
___ Caribbean Sea
___ Indian Ocean
___ Mediterranean Sea

Countries (numbers 6 - 37)

___ Algeria
___ Argentina
___ Australia
___ Brazil
___ Canada
___ Chile
___ China
___ Colombia
___ Cuba
___ Egypt
___ Ethiopia
___ France
___ India
___ Indonesia
___ Iran
___ Italy
___ Japan
___ Mexico
___ Nigeria
___ Peru
___ Philippines
___ [illegible]land
___ Saudi Arabia
___ South Africa
___ Spain
___ Sweden
___ Turkey
___ United Kingdom
___ USSR (Soviet Union)
___ United States
___ Yugoslavia
___ Zaire

Cities (numbers 38 - 50)

___ Buenos Aires
___ Cairo
___ Calcutta
___ Johannesburg
___ London
___ Mexico City
___ Moscow
___ New York
___ Paris
___ Peking
___ Rio de Janeiro
___ Sydney
___ Tokyo

Appendix 5

PLACE VOCABULARY PROJECT

Teacher Questionnaire

Place_____

Country_____

School_____

Date_____

1. Encircle the terms that describe your community:

   a) large city suburban small city village rural

   other_____

   b) upper income average income lower income

   c) mainly stable mainly transient

2. Encircle the terms that describe your school:

   a) less than 100 students 100-1000 students over 1000 students

   b) publically supported privately supported

   vocation/technical academic

   comprehensive

3. Yes No

   ___ ___ a) Is there a structured program of study in geography through several grades in your school?

   ___ ___ b) Did the students come up to your expectations on this test?

Comments: